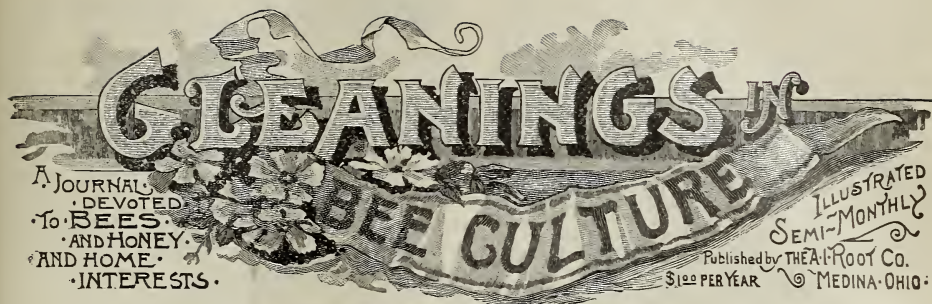


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No. 11.

FEEDING.

HOW THE AXTELLS DO IT.

By Mrs. L. C. Axtell.

Spring and summer feeding of bees is so much easier done by feeding out of doors that we feed that way almost exclusively unless we know of a hive or more that is clear out, and then we give a comb of honey or one good feed in the hive at night. We keep our feeder at the east side of our honey-house, where the water runs off the house and keeps it full of fresh clean water whenever it rains, and this helps to keep water out for the bees, and at the same time keeps the feeder from drying up if we forget to keep water in it. Just now we are feeding only by putting the syrup in feeders in the evening, and on top of the feeder we set some black sections of honey-dew, as we don't care to feed much honey-dew by itself; then we cover over the feeder so as to shed off the rain should it come in the night. The bees work at the feed late in the evening and early in the morning, and have it all taken up before the neighbors' bees, two or three miles away, come around, and then they have the day to go to the woods and orchards.

WINTER FEEDING.

We always feed in the hives, as generally half or more of the colonies have enough. Often only a very few will need any, and the very best and cheapest feeder we can get hold of is a large tin pan set on the frames with a thin cloth like a flour sack put into the pan, and then filled up with syrup as thick as will dissolve sugar by stirring cold water into sugar and letting stand a few minutes to settle. We then pour off the clear liquid. We do not even heat the water any more, as it is so much less work. If we have any extracted honey we care to use, a little of that mixed with the winter feed, we think, makes it all the better, as it will keep it from candying in the combs; and yet we have not been able to observe any bad effects from feeding clear sugar. Bees winter all right upon granulated sugar if fed not later

than Sept. 15; yet I believe it pays better to feed in August, and let them seal their combs over thoroughly.

LATE FUSSING WITH BEES.

I am inclined to think, is very injurious; at any rate, our bees winter ever so much better, all things else being right, since we quit bothering their brood-nest in the fall. The honey may be taken off the top, and not seem to hurt them; but if they have a good queen, and get the hive well filled with honey before cold weather, and left alone without opening up the brood-nest, and are properly protected in winter, such colonies almost invariably come through safely.

UNITING WEAK COLONIES.

Doing this in the spring is not very satisfactory. We have about come to the conclusion that, if they can care for their queen, it is better to let them alone unless we have queenless colonies, and then they may be united to advantage with a weak one that has a queen. Feeding out of doors does more to build up weak colonies, and give them heart and health, than uniting. We crowd them down on to two or more combs, cover up warm, and let them alone.

TO MAKE BEES GENTLE TO HANDLE, WHEN WE HAVE TO HUNT OUT THE QUEEN TO CLIP HER WINGS.

When there is no honey coming in, there is nothing like feeding thin sugar syrup—merely water a little sweetened, and give them all they will take.

In all my foregoing remarks I would not have it understood that I believe in feeding sugar to have it stored in sections. I think that is wicked, and should be classed with other sins, such as stealing, etc.; but there is no need of getting a particle of sugar syrup in sections if we understand the habits of bees, and feed only when they would not store in sections, or when there are none on the hive. We can be honest or dishonest in every thing.

Our bees have wintered unusually well, having lost but one colony out of 115, and it was queenless, though there are quite a number

that are weak, but many very strong for this time of the year. Some of our neighbors report heavy losses; but I think it was where the bees were not properly prepared for winter. A person who does not understand bees, and will not take pains to learn their habits, it is just as well, and better, for his bees to be in good-sized box hives where their owner can not rob them very easily. They can get surplus by setting a box on top of the hive, with some white comb stuck into the box for starters, or they may stick comb or foundation into sections, and set into the box; but before setting on the box, large holes should first be made in the top of the hive—the larger the more readily will the bees go up to work.

A deep jar makes a good feeder of water. Put into it a handful of salt, and take a clean gunny sack and wet it and hang it in the jar, letting one end hang over on the outside. It acts as a syphon, and keeps wet, even on the outside, and no bees are drowned or chilled, as they are in all open water in cool weather. It being in a jar, the poultry can not get the salted water to drink. I don't know that it would hurt them, but I have been told it would.

I should have stated, that, when feeding bees for winter, the rest of the frames should be covered where the pan was set on except some little openings around the pan, and the cloth should reach over the side of the pan down to the frames; and over the pan lay a block to keep the quilt up out of the syrup, and cover all snug and warm. By feeding in a tin pan there is no leaking, as there almost always is with all wooden feeders.

THE HILL FEEDER.

If not taken off the hives as soon as empty, the bees seal up the little perforations or holes so the syrup can not get out quick enough, and so sours if filled the second time, unless they are heated and rubbed clean with cloth or paper, which takes time.

SPRAYING FRUIT-TREES WHILE IN BLOOM.

I think every bee-keeper should have an item put into his county or town paper, not to spray fruit-trees while in bloom. I feel certain our bees have been injured two different years in that way. Our bees took to dying off just about fruit-bloom; and a little after there would be but very few old bees left in the hives—lots of capped and hatching brood; and as I did not know of any of our neighbors spraying their fruit-trees I thought we killed them ourselves by spraying after the petals had fallen; but I have since learned that one of our neighbors did spray while in bloom. He said he did not know it would do harm. Spraying while fruit is in bloom has been talked and written about so much one would think every farmer would know better; and yet there are some who never read any but their local papers, and don't seem to know any better.

Roseville, Ill.



WINTER REPOSITORIES.

THE UPGROUND AND THE UNDERGROUND, AND THE ADVANTAGES OF EACH COMPARED, AND WHY THE FORMER IS PREFERRED; DOES THE MATTER OF MOISTURE HAVE ANY BEARING ON THE SUCCESS OF WINTERING? A VERY VALUABLE AND INTERESTING ARTICLE FROM THE MAN WITH THE REPUTATION OF ALWAYS WINTERING HIS BEES.

By H. R. Boardman.

Friend Boardman:—I shall probably lose 20 per cent of my bees in my home apiary, owing to the honey candying in the combs, as I think. You fellows who winter in regular bee-repositories will come through this hard winter with flying colors as usual, I suppose. Well, you have got the trade learned, and understand just the conditions needed for successful wintering indoors. If I had a perfect bee-cellar I should like to try wintering in that way, but am fearful I should not succeed in building a perfect one, nor succeed in controlling the temperature or the humidity. But now comes Doolittle (see GLEANINGS, page 59, current volume) with an article claiming that moisture does no harm in a bee-cellar providing the temperature does not run down too low. I had supposed that a bee-cellar should be dry; and as I have understood that yours was always dry I should like to know if you think this dryness essential to success, as I know that no one has had better success in wintering than yourself. Suppose you give us your views through GLEANINGS, on the proper conditions necessary for indoor wintering.

CHALON FOWLS.

Oberlin, O., Mar. 25.

"Many seem to suppose that a bee-cellar in which bees are wintered should be dry in all its parts."—Doolittle in GLEANINGS, Jan. 15, page 59.

That hits me. I must own up I am one of those fellows. I have for many years had a very comfortable conviction that, in order to secure the best results in the bee-cellar, it should be dry in all its parts, and I have always tried to secure this condition as far as possible. That they do winter well in a moist or even wet repository is not new to me. But I am not quite ready to admit that the moisture contributes to the success of wintering.

Mr. Doolittle describes his cellar as not only moist but wet—actually wet and dripping, and filled with mold—sometimes great patches of mold on the walls as big as a hat-crown, and ready to seize upon the combs in the hives when not protected (see GLEANINGS for Feb. 15, 1894) and upon every thing where it could get a foothold. The glowing terms with which Mr. D. describes the nice condition of his bees in

this wet cellar is quite captivating, and might give others the bee-fever as well as himself; and I fear it might also mislead some to give the whole credit to the moisture. James Heddon reported a similar experience years ago, but not to advocate moisture as the most favorable condition, that I remember, but as an argument bearing upon the pollen theory.

The astonishing part to me is, that Mr. Doolittle goes on record as favoring such a condition—see GLEANINGS, 1894, Feb. 15. Mr. D.'s reports give him a good record for wintering his bees in this same moist cellar, except one winter when he reported a serious loss attributed by him to an oil-stove which he had placed in the cellar, to overcome the low temperature, I suppose. With his experience and sound judgment in such matters I feel sure that his good record will continue unbroken in wintering in this same cellar unless something unforeseen should turn up. But would it be safe to trust the novice in his place? I think not. Without the knowledge of the requirements of such a repository I think it would be unsafe and uncertain.

But what reason has Mr. D. for thinking that bees will winter better in a moist or wet atmosphere than a dry one? He probably has reasons, but he gives none except the excellent condition in which he describes his bees. Has he any assurance that they would not winter as well, or even better, if his cellar had been dry instead of wet? To those who contemplate building a wintering-repository, it is a question of first importance how to secure the most favorable conditions.

MY OWN EXPERIENCE.

Of the four wintering-repositories that I used for quite a number of years, I had but one that I considered perfect. This one is absolutely dry in every part, and mold rarely ever gets into it. It is in such perfect condition in this respect that combs and honey stored in it keep in good condition at all seasons. My section honey I have kept here for many years. This is my home bee-house, planned and built expressly for the purpose. My other bee-repositories were improvised. About 200 colonies I consider the utmost capacity of my home bee-house; 150 to 160 is about the average number that I have wintered in it for years. This gives 75 to 80 colonies in each of two rooms, making what I consider a well-balanced proportion of colonies to the size of the rooms, which is of much importance. Now, I am sure that this bee-house could not winter better with a moist atmosphere instead of a dry one. Every colony put into it in November in normal condition I expect to come out in the spring in just as good condition as when put in. Even light nuclei winter just as well as strong colonies. I attribute the perfect wintering qualities of this bee-house largely to its dryness and wholesome sanitary conditions. It is not entirely secure

against outside changes of temperature, but varies considerably. It is sufficiently protected to avoid sudden changes and extremes, and is perfectly safe for a short time between the extremes of 35° and 60°. Uniformity I do not consider important. The regulation 45° is, no doubt, about right. A high temperature is much safer than a low one in any bee-repository. Artificial heat I know to be a good thing; and in the building of a bee-house I would advocate some provision for it. The absence of mold may be partly due to the fumigating with sulphur which I frequently give the rooms for the benefit of the honey and combs stored in them during the warm season. Two of the four repositories mentioned were very good cellars under dwelling-houses. These were walled up in the usual way with stone. In each of these I made a room of the size which I thought I would need for my bees by means of a partition of matched ceiling. When I had them finished I thought they would be good wintering-repositories for the bees. But I have never been able to winter in them as perfectly as in the home bee-house. Although not as wet as Mr. D. describes his to be, they would always accumulate some moisture; and the combs not protected by the bees would be more or less damaged by mold and fermentation. Light colonies were especially exposed, and the first to suffer. All unsealed stores, especially the pollen, would be affected.

I regard the wintering of the stores in good condition as decidedly important; for upon their condition depends the future prosperity of the colony. There is no question about their wintering best in a dry place. I found these cellars too cold. They were affected too much by outside temperature—a fault I had no means of correcting, as I had no means of raising the temperature during a long steady cold spell, and this I think is the prevailing fault of such repositories. They were by no means cold cellars, as they were frost-proof, and sufficiently warm for vegetables, but they were cold bee-repositories. If such a cellar has to be used it is best to put in as many colonies as can be safely controlled during the warm weather in early spring before it is time to set them out, for they help to keep up the temperature during a cold spell. If these cellars had been as dry as my home bee-house, the low temperature would not have been at all serious; or with artificial heat the fault might have been easily corrected. Look out for cold if the wintering repository is damp.

WHAT MAKES THE MOISTURE IN THE BEE-CELLAR?

The walls are cold. The bees generate heat, which warms the air about them. This moves out to the walls and cold corners, and deposits the moisture with which it is loaded, by condensation, where it will remain if there are no means of absorbing it or evaporating it by ven-

tilation. Of course, so long as the bees keep up the proper balance of heat, no moisture can be condensed upon the hives or combs; but upon this balance hinges life or death to the bees.

Cold and moisture are destructive to the bees when they meet as allies; but so long as they do not come together they are comparatively safe. Bees will endure severe cold if dry. They will also withstand much moisture in a high temperature.

If you decide that you want to make your bee-house so that it will be dry, make the walls of material that will absorb moisture instead of condensing it. Imitate the chaff hive. I would suggest, as an improvement to walled repositories that condense moisture, an inside lining of matched ceiling, with an air-space between it and the wall. This would prevent the condensing of the moisture without interfering with the requirements necessary for wintering. I am quite sure that this would improve the sanitary condition of such damp repositories.

A great many bee-keepers are situated in a level country where they could not build like Mr. D., by burrowing into the side of a hill, if they wished to; but they must build wholly above ground. This requires an entirely different structure—one with double walls packed with some kind of absorbing material like sawdust, or with dead-air spaces.

Then I would say, as regards the conditions desirable, according to my experience in a bee-repository, I would have it frost-proof and dry; dark when required. That it is necessary to have a bee-repository always shut up from the light is a very great error. If other conditions are favorable, the light does not disturb the bees in the least. When they are inclined to fly out of the hive at a low temperature it is an indication that something is wrong. With a high temperature toward spring it is then necessary that the bee-room be dark; but the fore part of the winter it is not important. I leave my bee-house doors open after the bees are put in until the weather is quite cold. The bees remain quiet.

A valuable feature in a bee-house is an extra room adjoining the bee-repository, which may be used as an air-chamber to furnish air to regulate the temperature to some extent. It is the sub-earth theory realized. If the bee-room is small and well filled it will be kept warm by the bees during the coldest part of the winter; and as the temperature rises in the bee-room at the approach of warm weather or during a warm spell, more room can be given by opening into this room as required. In this room I would also have a stove to furnish artificial heat. After years of experience I would not think of building a bee-house without providing the means of using artificial heat when needed. There are times when an hour spent

in warming up the bees just a few degrees would improve their condition materially.

I have been delaying this article a few days in order that I might read it over again to see how it would sound after I had set out my bees. I have to-day, April 5, set out from my home bee-house, 178 colonies without the loss of one from any cause; although quite a number were small and light in the fall, they all, so far as I can see, are in as perfect condition as when they were set in last November. They seemed to start in right where they left off last fall. It is not enough that bees come through the winter alive. They may do so, and yet come far short of being well wintered.

East Townsend, O., Apr. 5.

[A few days ago we received a card from Dr. Miller, calling our attention to a few paragraphs in Gravenhorst's journal, *Deutsche Illustrierte Bienenzeitung*, and advising us to translate and print them. Fortunately, as it turned out, we had no particular use for them till the reception of the article above, from Mr. Boerman; and now, like "the stone which the builders refused," it has a marked bearing on the question, with a decided inclination in the direction of Borodino, N. Y. Mr. Schönfeld is held in the highest esteem by the best bee-men of Germany (or Europe for that matter), and his indorsement of Mr. Cziesselski's views seems to be very enthusiastic. We give it here for what it is worth; and we have no doubt the experiments were performed with that great care which is characteristic of the Germans.—W. P. R.]

Mr. Cziesselski says:

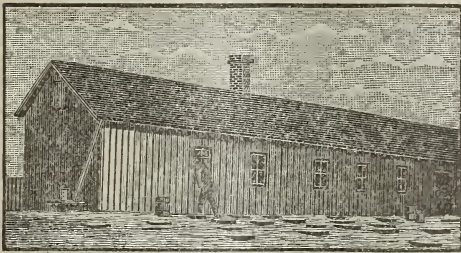
"Bees use water in winter. They get this water from uncapped honey, which absorbs it from the surrounding moist air. There is always found, in winter, in the upper part of a bee-cluster, a greater or less number of uncapped honey-cells, as the bees always uncup them in advance, without consuming the contents. These uncapped cells are designed to absorb atmospheric moisture. The more favorable the circumstances may be for the honey to absorb moisture, the smaller will be the number of cells uncapped. In clumps of bees, and in their immediate vicinity, where a temperature of only from 52 to 54 F. prevails, brood-rearing can not go on. The air which is breathed out by the bees, which is already somewhat moist, receives in addition, by the condensation of the moisture in the cold outer air, a considerable amount of wetness. Now if, while condensed, it comes in contact with an absorbent body, it is clear that the latter will take from the former a certain amount of moisture, or even make it so dry that, when it impinges against the cold walls of the hive, it can give off but little more dampness. A colony under such conditions will winter well. Still, if the brood-nest is too small, and crowded with bees, and the entrance not broad and high enough, or if the colony stands in a warm place, the temperature will rise, and hence the honey can not absorb water enough from the expired saturated air to meet the requirements of the bees. They will suffer from thirst, and winter badly. If the air contains too little moisture, the honey itself loses a part of its own. It happens in summer that the bees try by fanning to introduce large amounts of dry air into their hives, in order to ripen the green honey."

[Mr. Schönfeld continues:]

That is a beautiful and intelligible view of bee-life, which will be hailed with joy. It is the fruit of a searching and comprehensive investigation into the economy of the hive, as well as a clear insight into physical laws bearing on the case, and an exact and scientific examination, which the doctor has given us. From the most careful experiments,

we learn: Three grains of uncapped honey will, in 24 hours, in a temperature of 76°, absorb only .584 grains of water on an average; while three grains of the same honey, impregnated with the same quantity of water, but which, during the experiment, has cooled down to 50°, will, in the same space of time, absorb 1.527 grains of water. Other experiments showed that the three grains of honey, in 24 hours, at a temperature of 76°, took up, on an average, 1.032 grains of water, and at 50° absorbed 2.7 grains, and in one case even 3.034 grains. In the dry air of a room, on the other hand, having a temperature of 61°, three grains of honey lost only .04 of a grain of water. In three experiments, made directly in a cluster of bees, at a constant temperature of 50°, five grains of honey received on an average 3.068 grains of water. No experienced observer or student of the universal laws of nature can doubt the results of these experiments. We find it perfectly easy to comprehend that ripe honey, containing only 20 per cent of water, which the bees bring in as nectar containing 80 per cent, does, by means of energetic fanning, lose 60 per cent of its moisture; and that it attracts back to itself its lost property, water, as soon as the bees uncap the cells. It is the nature of honey, when five grains of it contain only one part of water to five of solid part, to absorb, on an average, 3.068 grains of water; for it will not take back more water than it originally held as nectar, as nectar is four-fifths water.

[As our readers know, I have visited Mr. Boardman's home a number of times, and illustrated and described his favorite winter repository at his home apiary a few years ago. As it may not be convenient to refer to this I reproduce one of the engravings we then made.



It shows the outside of the repository. It is a plain double-walled building, divided off into three rooms—two large rooms, one at each end, and one smaller one for entryway in the center. The whole structure is 12x50 feet, with walls 14 inches thick, and packed.

R. L. Taylor's experiments last winter, as reported in our last issue, seem to show that moisture, or even an excessive amount of moisture, does not have a deleterious effect on the wintering of bees; but Mr. Taylor seemed to regard as of prime importance an even temperature, and Doolittle seemed to be of the same opinion. Observe that Mr. Boardman thinks a dry repository important, but does not consider the matter of exact regulation of temperature necessary. If I am correct, Mr. Boardman winters right along, year after year, in this repository, with absolutely no loss. If the proof of the pudding is in the eating, then Mr. B. seems to be nearer the truth. Or perhaps we can put it this way: If the cellar is moist, we must have an even temperature; if it is an up-ground repository, and dry, even temperature is not necessary. This will harmonize the opin-

ions of Doolittle, Taylor, and Schönfeld, on the one side, and Boardman on the other.

With regard to artificial heat at certain times in winter repositories, Dr. Miller has seemed to stand almost alone in its advocacy. But now comes Boardman supporting it, and, for aught I know, he may have been a practitioner of the idea as long as or longer than Dr. Miller.—[Ed.]

B. TAYLOR'S LATEST HIVE.

LARGE HIVES HAVE TOO MUCH ROOM BELOW, AND CONSEQUENTLY LESS SURPLUS; THE FORCE OF DADANT'S ARGUMENT FOR LARGE HIVES LOST, AND WHY.

By B. Taylor.

Editor Gleanings:—I see you still wish beekeepers to give their ideas in regard to small or large hives. I have tested more styles and sizes of hives in my 45 years of apianian experience than any other bee-keeper I know of. To me it is a great pleasure to realize that I know a thing in counter-distinction to merely believing it, for belief may be founded on either truth or error, and we must not forget that error is no less harmful because honestly entertained. "Prove all things, hold fast to that which is good."

Many years ago I made four large hives that contained 4000 cubic inches each. I expected to get large yields of comb honey from them. I reasoned that, by clover time, these large hives would contain gigantic colonies of bees, and would not be likely to swarm. Well, I believe they never did swarm during the three or four seasons I used them; but the giant swarms were never ready at the right time when the white-honey harvest came. Each season these big hives would contain no more bees than hives of 1200 inches of comb capacity, and I never got any surplus from them worth mentioning, and what they did give was always dark fall honey. You see, they had ample room in those big brood-chambers, to store all the white honey they did not use in raising the great colonies of bees that those hives always contained at the end of the season. This immense force would, before spring, consume nearly all of the large store of honey which those hives always contained at the commencement of winter; but these old bees would pretty much all be dead the following spring before a new force of young bees could be raised to take the field; and they would have to build up again from about the same condition as swarms in small hives, with this disadvantage—that the large hives did not utilize the heat of the colony nearly as well as the smaller ones in the cool weather of spring.

A year or two ago we resolved to discontinue further general experiments in testing hives. We resolved to select from the fruits of our experiments that hive and system that actual experience had taught us would give the very best results in white surplus honey, either comb

or extracted, with the least amount of work, and be good at the same time for wintering and breeding up colonies in the spring. And now, friend Root, to describe just how these hives are constructed, and the reasons for them, and the system of using them, will give a clearer explanation of my present understanding of the *best* hive than any other words could give.

The new hives are 16 inches square, outside measure; $14\frac{1}{4}$ inside, and the bodies are 9 in. deep. The frames are $13\frac{1}{2}$ long by $8\frac{1}{4}$ deep. Each frame contains 100 inches of comb surface, and we use 10 of them in a hive. Those hives then contain 1000 cubic inches of comb surface. This is, then, according to the common popular understanding, a small hive. And now for the system of using them. We will have new swarms in one of those hives on eight combs, two dummies being used in place of the outside combs. Each hive will be given all supers of sections filled with either finished combs or foundation, or part of each that they can use. At the end of the white-honey season (basswood here) we will remove the surplus cases, take out the two dummies, return the combs, place a queen-excluding honey-board on top, and on this another hive, either a new one filled with foundation or one filled with bees and brood from which a swarm has previously issued. If the last is used I will see that the queen from the new swarm is removed, and the old swarm with its young queen put under. I want no brood raised further in the top hive. As the brood in the top hive hatches, the combs will be filled with fall honey. If the flow should be good I will add other hives as needed until the end of the season. At the end of the honey season I will take off all hives above the queen-excluder, having, a day or two previously, put an escape-board under them and run all the bees into the parent hive below, which hive will be examined as to stores, and, if lacking, an abundance will be given from the filled combs from the top hives taken away. We will winter the colony in a single hive. They are easier to handle, take less room in the cellar, and we *know* that, with us, a small hive with a good colony of young bees, and plenty of stores, is in the best possible condition for cellar wintering.

In the spring we will remove the colonies to the summer stands. These stands will have room for two colonies each, but we will have only one colony to the stand until swarming-time; but previously we shall have added to each colony a second hive taken from those used on top last fall, and more or less filled with honey; but we shall not add the second hive until the first one is well filled with brood, as they will breed up much better in the small single hive early in the cool weather of spring.

In this system each colony will have two hives at swarming-time. We will give each

colony, run for comb honey, cases of sections early, for we do not care whether they swarm early or late. We will keep them storing surplus without swarming at all, as long as plenty of room will do it; but we will use no *force* measures to prevent swarming; for, after the most searching effort in that direction, we are now thoroughly *convinced* that it can not be *profitably* done. When the swarm does finally come (if it does), we will have it in a hive contracted to eight frames or less; remove all surplus cases from the old to the new swarm; set it on the old stand, turn the entrance of the parent colony in an opposite direction on the vacant space on the same stand to be requeened, and the two colonies will be united again after the white honey-flow as before.

In working for extracted we will simply give each colony all the hives they will fill; and in case they swarm we will treat them exactly as for comb honey. If, after we have supplied all our colonies, fall and spring, with all the combs of honey they can use, if any remain we will extract them; but we will use every pound of dark for winter stores and brood-raising; for by this management we can and will secure nearly the entire white-honey crop for surplus.

Now, Mr. Editor, I have written not only about small hives but how to use them. Many bee-keepers try small hives. They use them exactly as they would large ones. They do not find small hives profitable, and argue against them. I have great respect for the Dadants as bee-keepers, and their argument for large hives had almost persuaded me; but now comes Mr. Dadant, in the *American Bee Journal* of May 9, and states that his average yield of extracted honey from colonies in his big hives is *only fifty pounds*, and that his greatest yield was only 150 lbs. per colony. Friend Dadant, you have, to me at least, given the whole argument for your large combs and brood-chambers away. A small comb, all will agree, can be handled more easily and pleasantly than large ones, and small hives the same. You may say I have more combs to handle in my two sets that I use at times; but I tell you that, with my wired end-frame, with which no followers, wedges, thumbscrews, or other traps are used, but where each comb can be taken from any part of the brood-chamber with the naked fingers, and returned to their exact place without the use of our eyes at all, the handling of frames becomes a pleasure and pastime. As for crops, we have always worked for comb honey, and have for 20 years regarded less than 100 lbs. per colony, spring count, as partial failure. We have in a good year secured 143 lbs. per colony from a whole apiary, and 90 per cent of it white honey. The seasons of 1893 and 1894 were regarded as bad ones here, and yet we harvested more fine comb honey each of those seasons than Mr. Dadant says he gets in extracted in average good years. No, friend

Dadant, you may go ahead with your big hives. I now *refuse* to be "persuaded."

Now, friend Root, in praising my own special hive I do not mean to condemn other small hives (or large ones either). I have no doubt your eight-frame Dovetailed hive can be used in the system I practice, and have explained in this article, to good advantage.

Forestville, Minn., May 17.

TWO EIGHT FRAMES, ONE TOP OF THE OTHER,
NOT AS GOOD AS THE JUMBO HIVE.

Editor Gleanings:—You ask friend Nash, on p. 349, if he ever tried two eight-frames, one on top of the other. I will say that I have tried them, also the ten-frame two and three stories high, and they do not give as good results. Why? Because there isn't sufficient cap room. You can get strong colonies in the eight or ten frame two stories, but they are not in convenient form for sections. You see, when you have the sixteen frames in one hive you can put on 48 sections, and the hive is not yet as tall as it is wide or long; you can put on another tier of 48 sections, and it is not yet as high as it is wide or long. All bee-men acknowledge that the proper form of a hive is square, as nearly as may be. When the third tier of sections is added it is then nearly square.

How do you suppose the eight-frame two-story hive would appear with this number of sections on? Rather out of proportion, I think; don't you?

I find that I can conform to the principles of honey-production, as laid down by Heddon or Honey Producer, better with my Jumbo hive than with any other hive I have used, except his third principle, which cuts no figure in this management, as the bees seem to fill the outside sections just as well in the sixteen-frame as in the eight-frame hive.

I was extracting from the Jumbo hive May 2d. One of them contained seven frames of sealed brood. May 4 I transferred some from ten-frame hives into the Jumbos; three and four frames of brood was all they had, and they were packed in chaff, sides and top. All the protection the Jumbo hives had was the upper story filled with chaff. The eight-frame hives are none of them ready to transfer yet.

Raspberry will soon be in bloom. The bees wintered in the Jumbo hive will be in fine shape to store it while the eights and tens will be building up.

N. E. DOANE.

Breckenridge, Mich.

Friend Root:—I have watched with great interest the discussion relating to large and small hives, and trust the same will be continued until all the light possible has been thrown on the subject. There are a few individual bee-keepers in this country who think they know it all; but they are a disagreeable class of men to deal

with. The great mass of your readers do not belong to that class, but are willing and anxious to learn while they live. If my apiary were situated at a distance from the river-bottoms, where I could not have early and late pollen and honey, I think it would be an advantage to me to use the ten-frame hive in preference to the eight-frame. If I ever increase my bee-business I think I will try fifty ten-frame hives, and institute some comparisons; then if I decide that I do not want them I can sell them to some fellow on the other side of the fence, or send them to Richland Co., Wis., to be used for *Hatch*-ing purposes.

The strongest colony now in my apiary was wintered out of doors on two hive-bodies of 8 L. frames, each packed in planer-shavings. On the 3d of May I noticed about one peck of bees hanging out at the entrance. I examined them and found much brood in both stories, and queen-cells started preparatory to swarming. I gave them a third set of frames, which they at once occupied, and now (May 13th) I find the preparations for swarming have disappeared; and truly there is no occasion for it, as there is but little prospect here for a honey crop before basswood.

But here is the point I wish to make: If the experience of the past winter holds good, there are other colonies in the yard that would now be considered rather weak, but at the close of the season's work I shall find that their honey-record is as good as or better than that of the other. If a queen produces a large amount of brood very early in the season, and the honey season is long, as it usually is here, she will be very likely to do less during the middle or latter part of the season than some queens that do not get down to business in egg-laying so early.

Browntown, Wis.

HARRY LATHROP.

FOUL-BROOD LAW IN WISCONSIN

INDEFINITELY POSTPONED; AN APPEAL TO THE
BEE-KEEPERS OF THAT STATE.

By N. E. France.

I am surprised that the bee-keepers are so indifferent to one of the vital points in bee culture. Often have I called upon bee-keepers of our State, and explained to them the nature of foul brood, contagious and fatal; and unless something is done to stop the spread, the future outlook for Wisconsin as one of the best honey States is very alarming. Many times I have been asked, "How near is foul brood to their bees?"—as if a few miles insured their safety! With the present demand for queens and honey, I have plenty of cases reported where foul brood has appeared from some supplies bought 2000 miles away. We have never had a case of foul brood, and don't want to. I have spoken on this subject in conventions in many towns of Southwest Wisconsin. Last November, at Montfort, the Southwestern Wisconsin Bee-

keepers' Convention voted their president be delegated to draft a bill for the suppression of foul brood in Wisconsin, and attend the State convention in February, and get them to assist in having the legislature act on the bill. I appeared before said society, which voted F. Wilcox, their president, to act as State delegate. We in committee carefully reviewed each section of the bill, and reported what we considered a model, much in form like the Canada foul-brood law, which is doing so much good. That evening my assemblyman reported Bill 300 A. for consideration, which was referred to the Committee on Agriculture. About two weeks later I was telegraphed to appear before said committee in defense of the bill. I took the next morning train, and at 1:30 P.M. appeared as directed. Said committee reported the bill was worthy of consideration; but as it provided for an appropriation to defray expenses of a State Inspector, they would recommend the bill for indefinite postponement. As soon as this report reached me, I learned by several assemblymen, that, if the bee-keepers would write them, urging the passage of the bill, it would have quite an effect. I wrote 65 postal-card requests to bee-men, asking them to plead for their interests. Had they all responded with the earnestness of F. Wilcox, H. Lathrop, and F. Murray, Wisconsin would have had a foul-brood law.

I set a date for them to reply. The same date I again appeared before another State claim committee, with only a small handful of letters for support. As a last resort I presented this committee a bill the same as before, except that no State money was asked, but a two-cent-per-swarm tax on all colonies of bees, to defray expenses, was added. As this made the bill self-supporting, they voted to recommend its passage. Next day it was presented to the Senate, and returned for indefinite postponement.

Now, Wisconsin brothers in bee culture, I have been at \$25.00 personal expense, and wish to say that, if you had done your part, we should have had a law for our defense. Am I going to give it up? Not until we have a State foul-brood law. I know the ground we have to go over, and will for the next two years try to get our bee-keepers interested. If at first you don't succeed, try, try again.

Platteville, Wis., May 6.

BEFORE THE WESTERN CLASSIFICATION COMMITTEE.

FREIGHT RATES ON EXTRACTED HONEY IN BULK
MATERIALLY REDUCED.

By Herman F. Moore.

Mr. Root :— Dr. C. C. Miller has just left my office with Mr. Geo. W. York, and will stay one night at Ravenswood with him. The doctor stayed at my home last night. He says he has

often been asked to pronounce a benediction, but answered that he was not a minister. But I tell you it is a benediction to have Dr. M. for a guest; and if he did not preach to us—why, I never heard preaching. Mrs. Moore and myself were charmed by the doctor's visit. He sang for us in his own inimitable style, and played an accompaniment on the piano.

We had 45 minutes before the full committee. It consisted of about sixty men of all ages, from the youth of 25 years to the gray-headed veteran railroader, seated at a long table in a room 75 feet in length.

Dr. Miller called attention to the fact that the bee-business is a great and growing industry; that it needs encouragement from the railroads to develop into one of the greatest interests in the land. He said, by way of parenthesis, that he was there in the interest of the roads; that if they'd give us lower rates we'd give them more business. He mentioned the fact that one supply-firm had shipped seven carloads to western points in one month (The A. I. Root Co.); also that fourteen carloads of honey was shipped from Arizona in 1894 to one firm in Chicago (R. A. Burnett & Co.).

Nine petitions were presented to the Western Classification Committee by the chairman of the committee appointed by the North American Bee-keepers' Association at its convention at St. Joseph (Dr. C. C. Miller, of Marengo, Ill.). Petitions on four of these same articles were presented by The A. I. Root Co., of Medina, O.

Bee-hives in the flat was first on the list. Through the kindness of T. G. Newman, sample packages of stuff were on hand to show the committee. Mr. York, editor and publisher of the *American Bee Journal*, assisted the writer in elevating the samples in view of the committee. Attention was called to the fact that bee-hives in the flat (K. D.) have no greater value than average lumber shipments, and that the Trans-continental Committee had already rated them with box stuff at a very low rate.

Samples of the Crane and Clark smokers were next shown to the committee. They took great interest in these, and one or two amused themselves in a quiet way by aiming the current of air at a fellow-committeeman's face.

Samples of honey-box lumber were then presented, and the uses explained. Just then a young man asked how long a bee lives, to the great amusement of the others. Dr. Miller said it depended on what kind of a bee he meant. Another committeeman put in, "A bumble-bee," and the whole committee of railroad-men burst out laughing, like a lot of schoolboys.

The writer believes that whatever reduction is obtained will be more the result of Dr. Miller's jokes, and R. A. Burnett's case of honey, which he presented to the committee, not for publication, but merely as an evidence of good faith, than to any of the solid arguments advanced in the course of the conference.

In answer to the question, Dr. Miller said that ages vary greatly, and explained the matter at length as bee-keepers understand it.

Then said Dr. Miller, "I am going to tell the biggest whopper yet. Our queens lay as high as three thousand eggs in a single day;" and some gentleman remarked, "That is the reason the bees live so short a time."

The honey-extractor crated was then exhibited, upright and lying on its side, so as to give the committee a good idea of the structure of the same. The committee was asked to classify these, as there is at present no classification of them in the Western.

Honey in comb being the next petition, a section of comb honey was handed about, and the gentlemen began to sample it with their fingers.

Dr. Miller explained at length to the committee that we as bee-keepers want the glass in sight; that we have no fear of breaking the glass, but the honey inside, owing to ignorance of the nature of the contents. A large crate to hold a dozen 12-lb. cases was shown, and our method of packing the same explained. We hope to get a second-class rating for comb honey packed in this manner. There is no doubt that this is the ideal way to pack comb honey for shipment in less than carloads. The writer received one shipment of over 1000 lbs., without any breaking, the past season.

Friend York kindly furnished a Muth jar of fine extracted honey, which was passed around, and the gentlemen invited to partake of the same. R. A. Burnett suggested that it was not to use on the hair.

A good point Dr. Miller made was that the railway companies, in rating extracted honey, valued it equal to comb honey, when, as a matter of fact, the average extracted honey has about the same value as good syrup, and no greater risk in handling. The doctor explained why this is so.

The chairman of the railway company asked the value of comb honey. He also asked the value of beeswax and of comb foundation.

One reason why the companies rate these things high is, that they look at the value compared with the bulk and weight. Four things they consider in classing our products—weight, value, bulk, and risk of injury in shipping, to the goods shipped, or to the other goods in the same car.

Another point against the high rating of honey is the fact that all shipments are actually at owner's risk of leakage or breakage, as an owner collecting for loss by transportation is almost unheard of.

In regard to beeswax, we informed the committee that, by high rates, they prevent much wax from being shipped and comb foundation returned—a double shipment and double transportation charges for the roads.

Bees in hives less than carloads are refused by the roads at present. Dr. Miller told them that,

under such circumstances, a bee-keeper desiring new stock pays Uncle Sam two cents to carry a queen-bee by mail, when often full colonies would be shipped if taken at a reasonable rate in less than carloads.

The railroad committee on classification rendered great courtesy and lots of interest in all the remarks made by the committee of bee-keepers. Too much credit can not be given these gentlemen for the kind manner in which they treated the committee.

Naturally your committee felt some timidity in appearing before these railroad magnates who hold, as it were, the destiny of half a continent in their hands. One of our number said we might be in the predicament of the gentleman who went to the general passenger agent to get a pass. After the applicant had told his story, the G. P. A. remarked with a drawl, "Well, yes; I can give you a pass or I can give you the money to buy a ticket."

We shall be on the anxious-seat for a few days until the rulings of the committee on our petitions are made known.

In the meantime a step in advance has been taken. We have published the fact that we are alive, and doing business at the old stand. This committee, and through them the railroads they represent, will in the future have more respect for our honorable pursuit. Our claims for damages will receive more respectful attention, and good must result to the craft at large from this meeting.

Later.—I have just seen Mr. J. T. Ripley, the chairman of the Western Classification Committee, and he informed me as to the result of our petitions as follows:

Bee-hives in flat—petition denied.

Honey-box lumber, referred to the Western Freight Association, John W. Midgley, chairman, 7th floor, Rookery.

Bee-smokers—petition denied.

Honey or wax extractors, crated or boxed—petition denied.

Honey in comb, glass fully protected—petition denied.

Glass fronts not protected, future rating first class.

Extracted honey in barrels, kegs, or tin cans boxed, future rating fourth class.

Beeswax—petition denied.

Comb foundation—petition denied.

Bees in hives—petition denied.

In regard to bee-hives "K. D.," which should have been referred, to be consistent, along with "honey-box lumber" to the Western Freight Association, the writer was informed, by Mr. Ripley, the chairman, that he might get "bee-hives K. D." referred also.

Mr. Ripley very kindly accompanied the writer to a number of railroad freight offices, for this purpose.

The next meeting of the Western Freight Association occurs in May, and it is too late now

to get on the docket the petitions referred to. The next meeting after May will occur in June, if I am correct, and then our petitions will be taken up. It will be best to get our material in shape to present to them in the best possible manner as they make the final ruling.

Chicago, Ill.

FEEDING.

THE OLD STYLE OF MILLER FEEDER PREFERRED, AND WHY.

By Emma Wilson.

The first thing we did after taking the bees out of the cellar this spring was to weigh each hive; and any colony that weighed less than 38 lbs. was given a frame of honey. As soon as the bees were hauled to the out-apiaries, we commenced putting on feeders. Into each feeder we put 5 lbs. of dry granulated sugar. Then we made a little hollow, right in the center of the sugar, and poured in about a pint of water, and so on till all the feeders were treated alike. After they had stood half an hour or longer, we added three quarts of water to each feeder.

The object of putting the small amount of one pint of water into each feeder at first was to let the sugar have time to dissolve, so that the first that passed through might be sweet. If the whole amount of water is put in at one time it will pass through so rapidly that it will be very little sweetened, and the bees will not take it readily. It pays to look after all these little items, even if it takes a little more time.

When the Miller feeder was improved upon, Dr. Miller was very much pleased with the improvement, and we made 25 of the new kind, intending to discard the old ones. But after a thorough trial we liked the old ones a good deal better. In the first place, if there's any leakage it is inside the hive, and that is quite a point. It is more convenient to have one large compartment rather than two smaller ones. The one point that we thought would be of so much value, and prove so much superior to the old one, that of the passageway directly over the brood-nest instead of at the sides, in actual practice has not proven to be so. Just why, I can not tell. It really seems as if it ought to be; but our old feeders are the ones that are emptied first, and, as a consequence, the new feeders are the ones that we use last.

Many of our feeders have been on for more than three weeks, with only 5 lbs. of sugar in them, and are not empty yet at the present date, May 4. The very strong colonies do pretty good work at emptying, while those of medium strength empty very slowly, and the weak ones are almost a total failure. Last fall our feeders, with 15 lbs. of sugar, were often emptied in a day or two, while this spring the strongest colonies are several days in taking 5 lbs. Fall and spring feeding are two entirely different

things. Of course, we should expect the strong colonies of fall to work faster than the weaker colonies of spring; but there seems to be more difference than can be accounted for in that way. Perhaps it may be accounted for in this way: In the spring there is so much brood to care for in proportion to the number of bees that few bees can be spared for the feeder, while in the fall there is little or no brood.

I notice that, where there was a leakage from the new feeders on the outside, the bees took the feed eagerly, seemingly more willing to work outside than inside the hive; and, strange to say, the bees work along busily day after day on this leakage without any indications of robbing.

We had, however, two colonies robbed this spring, not where there was any leakage, but the robbers went in at the entrance, which was not large, up through the hive, and emptied the feeder, and left no honey in the combs. The curious thing about it was they did not destroy the colony.

All things considered, never a feeder would we put on in the spring if we had only enough frames of honey to feed with. We planned for this last spring; but when the season is a total failure, and the bees can not gather enough to keep them over winter, where are the frames of honey for spring feeding to come from? Might it not have been a good thing if we had had the bees fill some extra combs of sugar syrup last fall?

Marengo, Ill., May 4.

REMARKABLE RIFLE-SHOOTING.

Yes, Buckskin Charley beats my record on deer-shooting; but I think he had greatly the advantage over me, as his record was made at a time when game was very plentiful, and not wild. Although he used a rifle he "still hunted," which allowed him every advantage, while here at this late day deer are so scarce a man could walk for a week, and it would be an accident if he ever saw one. Deer are now found only in the wooded districts of East Texas, and we use hounds to find them; so we hunt on horseback, and run for a chance to shoot. I have killed many a deer while my horse was running at full speed, as well as the deer. This makes hard shooting—quite a difference from being on foot. A few years back I was quite handy with a rifle. I used a 22-caliber Winchester rifle, but my shooting was confined to target practice—at flying targets too. The best score I ever made, I broke 38 balls thrown by hand into the air, out of 40 shots. I have cracked walnuts, peachstones, and pecans, thrown into the air—yes, nickels and dimes. This requires very accurate shooting, as a 22 ball is very small.

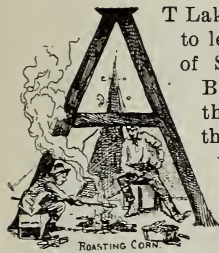
J. D. GIVENS.

Lisbon, Texas.

RAMBLE 133.

IN THE MENDOCINO MOUNTAINS.

By Rambler.



T Lakeport we were advised to leave the county by way of Scott's Valley and the Blue Lakes. We accepted the advice, and through the valley we go. Here we find again a general farming community. Many hop-fields abound; and as it was nearing the time of gathering, a large

band of Indians had arrived from some not remote reservation, and were camped on the sandy shore of the river, and their camp made a lively and picturesque scene.

Blue Lakes were rightly named. The waters are clear, and of a bluish cast. Three little

in Mendocino Co., there was a fine running stream full of fish; rabbits in the brush, quail in the grass, and deer on the mountain; and from thence it was hurrah for the game. It was after dark when we found a good camping-place; but darkness had to flee when Bro. Pryal started a camp-fire. Old floodwood was piled up all along the stream; and, what a roaring camp-fire we enjoyed! Plans were laid for the morrow, and we could already see fish and game piled up all around our camp.

Before the gray of dawn appeared, Wilder was off with his rifle in quest of deer. Pryal and I fished. After about two hours angling I caught one 4-oz. trout; returned to camp; dressed, cooked, and ate my fish. In about an hour Pryal returned with one little fish and a long record of bites. His fish was also cooked and eaten, without much comment. I believe I suggested that we had forgotten to catch a fish for Wilder, whereupon Pryal thought we'd have to serve him with the bites.

Wilder soon appeared on the mesa beyond



MOUNTAINEERS.

lakes were linked together like a chain, and set like so many gems in the folds of the mountains. Bold bluffs, placid waters, mountains shading off into the smoky distance, gave us views pleasing to look upon.

Of course, Mr. Pryal had to clamber out on a log to fish. Result, some splendid—bites! We had set our minds to camp at the last of these lakes; but an honest-looking freighter we met told us that, a few miles further down, just over

our camp. Said I, "Wilder has shot a deer."

"What makes you think so?" said Pryal.

"Why, just see how he grinds his heels into the ground; and see how rapidly he walks."

So it proved. Susan B. was hitched to the cart, and away they trotted up the canyon. A fine buck, "mit horns so vide," was soon dangling to a limb in camp, and that day was devoted to eating venison, and jerking for future use the portion we could not eat.

The next day being Sunday, we all rested in camp. Our neighbor half a mile away had a fine herd of pigs that gave us some trouble; but Jack was equal to the occasion, and kept them at a safe distance. This neighbor said that it was no uncommon thing to find bee-trees in these woods; and, though he was not a bee-keeper, and no one kept bees near him, his observation enabled him to confirm the previous reports in relation to the great prevalence of honey-dew. At certain seasons the trees, shrubs, and grass were covered with it. Our experience with insects, however, was in the yellow-jacket line. These determined fellows were hungry for venison; and our slashed meat, as it hung in the sun to dry, began to disappear. We were told afterward by hunters, that, if unmolested, they would spoil and get away with a large amount of meat. We saved our meat, however, and consoled ourselves that, though there were many bees working on blossoms near by, they did not devour our meat. Half the ills that are laid to the honest bee might be cast upon the troublesome hornet.

After the two days' rest and such an abundance of venison, we made a lively gait to Ukiah, the county-seat of Mendocino Co. After a very brief halt we commenced a drive with Eur-ka, in Humboldt Co., as our objective point, or about 140 miles of mountain roads, streams, and forests. The towns began to dwindle in size, and the distance between them began to lengthen. The saloon seemed to be the main business center of these towns, and the saloon-keeper seemed to be a very public-

taking a nip. In Caliente the enterprising saloon-keeper, in addition to the watering-place, provided an awning, in the shade of which the team could rest while the driver



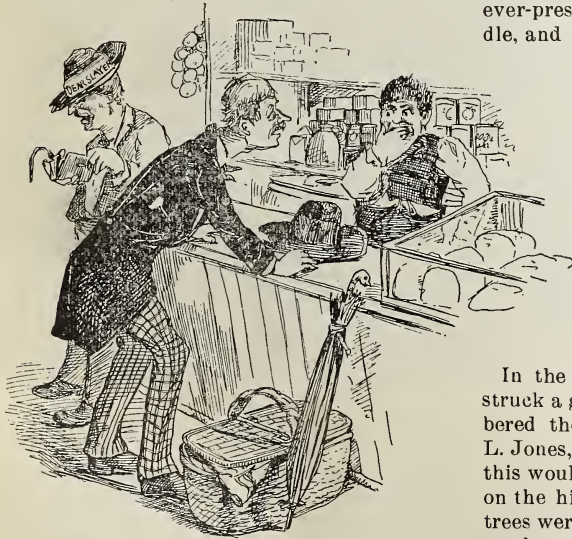
A CHANCE FOR PRACTICE NOT TO BE MISSED.

was taking another nip. We watered our horses, but eschewed the nips. Here we began to meet again those many-teamed wagons hauling immense loads of merchandise into the remote mountain regions; and the jangling bells, upon the leading horses, made merry chimes in the air. Our days were passed in climbing and descending grades—rough grades, serpentine grades, forest grades, and but a small mileage of level grades.

The native mountaineer men and women were usually mounted upon horse or mule, the ever-present rifle across the pommel of the saddle, and the long picket-rope coiled in a convenient place. If we desired information about the roads, the woman always did the talking. The man with her usually had his mouth full of "terbacker," and before he could unload and get his tongue into working order the woman had unloaded a whole grist of information. When we three bachelors saw such a company coming it was safe for us to bet that the woman was already wound up, and ready to go off like an alarm-clock.

In the northern borders of Mendocino Co. we struck a great hog country, and we all remembered the brilliant scheme of our friend Harry L. Jones, the gas-man. We made remarks that this would be just the country for him—swine on the hillsides and in the valleys. White-oak trees were plentiful here, and the hog fattened on the acorns. Cows that wander in the forests are often belled; but here the hog was belled as well. Such a one crossed our path, and the following inspiring scene occurred:

While o'er the mountain climbing,
We spied a pensive sow;



"BREAD! TWENTY-FIVE CENTS A LOAF?"

spirited man. The only watering-place for our horses in these little villages was in the shadow of the saloon; and while the horses were drinking, the driver was supposed to be in the saloon

Jack, our dog, espied her too,
 And then commenced the row.
 Upon her neck a bell was tied
 With heavy leathern thong;
 And how the bell did jingle, whingle,
 While she sped fast along.
 Dog and sow, with headlong leaps,
 Kicked up a blinding dust;
 She, intent upon her sty,
 She meant to reach or bust.
 It was no use for Wilder 'n' I
 To swing our arms and yell;
 In sad confusion, out of sight
 Went sow, dog, dust, yelps, grunts,
 And jangling bell.

In the northern portion of Mendocino Co. our surroundings began to change. We left the railroad away back in Ukiah, and the only route now to follow is the stage-road into Humboldt Co. About every 25 miles are located stations, and now and then a small town. The intervening space is an unbroken wilderness. The trees that had been familiar to us began to disappear, and the redwood, the northern fir, the madrone, and the beautiful California bay-tree, or laurel, were abundant. The latter is a rich honey-producer in its season of bloom.

Our roads, instead of following up one canyon and down another, now sought the highest ridge, and we followed its contour for several days. The highest point to which our road conducted us was at the Bell Springs ranch, about 4000 feet above sea-level. We had a splendid atmosphere which visibly affected our spirits for happy effects. Grand panoramas of mountain beyond mountain, away to the north; black volumes of smoke rising from forest-fires; now the scene shifts, and we plunge through a narrow wooded defile; now out upon a mere niche for a road upon the mountain-side. Here were evidences that the road had been taken out by a slide, and dumped into the gorge below. The road, now mended with logs, was liable to go out again during the rainy season. It was in this region that we could indulge, under the inspiration of Mr. Pryal, in those big camp-fires; two or three fair-sized logs, then smaller limbs, sent the flames and the sparks heavenward in a grand pyrotechnic display. Cornfields were not abundant; but when we did find one it had to pay tribute in roasting-ears; and here we were delighted to initiate our city friend into the beautiful rural practice of roasting and then eating the delicious green corn. With a rise in our spirits, etc., there was also a rise in the price of provisions. Bread, 25 cts. per loaf; hay, 25 cts. per sack. As we had to buy hay for long distances, it was necessary to load several sacks. Susan B. and the cart were loaded to their full capacity, and Mr. Pryal's attitude at such times was so striking that I greatly feared for his decorous bachelor appearance. Wilder took turns with him, however, in hugging the delusion. See sketch.

At Bell's Springs we were directed to a good

camping-place a few miles ahead, where there was plenty of water; but by some hook or crook the signs were not strong enough, and we missed it. We made a long drive in a vain endeavor to find water, and finally darkness compelled us to camp. Having a merciful feeling for our horses and dog, we broke camp almost before the gray of dawn appeared, and resolved to find water, even before we ate our breakfast. We were now in an abundant deer country; and as this was the hour for them to feed, our guns were loaded, and Wilder sat with rifle in hand, and expectant eye. His face would have a sort of lemonade-without sugar appearance whenever Susan B.'s whinnies would reverberate through the forest; but in spite of the noise, when we made a sudden turn through a wooded gorge, hurrah! three deer—noble deer, with antlers long, and nimble feet, went bounding one after the other across the road and into the bushes. I brought the horses to a sudden stop, and crack! went the rifle. "Whoa, Reina! whoa, Keno!" The rifle went into the bushes with Wilder behind it. Soon another shot, and *we* had the deer. Pryal and Susan B. came up, and we all lugged the deer into the road and upon the cart, and again proceeded upon our journey. We could have shot every deer, but we wanted only one for our daily needs, and a shooting of more would be merely wanton sport. We soon found a residence and a spring, where lived our friend the blacksmith. We dressed our deer, watered our animals, cooked our breakfast, and, without further rest, prepared for the continuation of our journey.



HIVING SWARMS IN HIVES HAVING PART FRAMES WITH STARTERS AND PART FRAMES FILLED WITH COMBS OF BROOD, HONEY, AND POLLEN.

Question.—In hiving swarms on frames containing narrow starters, how would it work, by way of contracting the brood-chamber, so to speak, to put in two or three frames of honey, bee-bread, and sealed brood, placing such frames on the sides of the hive, instead of using division-boards? This would save the trouble of looking over the hives and taking out the division-boards later on, and give the bees a start at housekeeping.

Answer.—There are three things against such a mode of procedure, the first of which is, that the bees would be likely to fill those combs with honey as soon as the brood hatched out, thus giving the three combs solid with honey, instead of having that much honey in the sections, this thwarting the only purpose of contraction, which is to secure the first and best

quality of honey in the sections, and also to get the bees to work in the sections before they commence to store honey in the brood-chamber to any extent.

Second, if the three combs had any great amount of sealed brood in them, so that the hatching of this brood materially strengthened the swarm, it would be very likely to result in swarming, or the issuing of "virgin swarms," as it is called, where a swarm of the present year casts a swarm. These virgin swarms always destroy the prospect of a good yield of section honey, for, as a rule, they are much more persistent in continued swarming to the end of the honey-flow than is an old colony. I have often had new swarms go to work with a will in a large number of sections, working till they were about two-thirds completed, and then, just as I was priding myself on having a large lot of beautiful honey from such a hive, had them swarm, and be so persistent in swarming that none of said sections would be completed, while the nice looks of the work they had begun would be spoiled through the long failure of its completion.

Third. But the greatest trouble with such a plan of working lies in the persistency of new swarms in building drone comb in the remaining part of the hive, where any part of it is supplied with any thing in the shape of frames filled with combs. Why this is so I never could fully understand; but an experience of more than 25 years along this line has proven to me that bees can not be depended upon to build worker comb during the first week after being hived, if there is any completed comb in the hive at the time of the hiving of a prime swarm. With second or third swarms, the case is different, as bees are more apt to build worker comb with a queen when she first commences to lay, and only unfertile queens accompany these latter swarms; and in this case the queen does not commence to lay till the bees are fully accustomed to their surroundings. But with an old or laying queen, she seems to adhere to the combs placed in the hive when the swarm is hived, going but very little on the new comb then building, the result of which is the building of store comb for honey, which is always of the drone size of cells. After the bees have built a frame or two of drone comb, and the queen recovers her normal egg-laying powers which she had before the swarm issued, then the bees will go on and build worker comb; but we have worker and drone comb all mixed through our frames, which is a condition an enterprising apiarist does not like, and one which, if allowed to remain, results in a diminished crop of honey each year. My advice to all is, use only starters in the frames in hiving swarms, or else fill all frames with foundation, or give all frames filled with combs. Frames filled with foundation mixed with those containing combs do much better than frames

having only starters when used with combs; but even this is objectionable, on account of the bees lengthening the cells of the combs given while they are working out the foundation, so that the combs are very thick when completed, while those on the foundation are correspondingly thin.

ITALIANIZING.

Question.—When is the best time to Italianize an apiary of 52 colonies without interfering with the honey flow, without buying queens for every hive? and when should the queen-cells be started for doing this?

Answer.—There is no time of the year in which queens are so generally superseded as immediately after the general honey-flow; and we can always rest assured that, when the bees are willing to do such work, then is our best time. With me, fully three-fourths of all the queens which are superseded by the bees are so superseded during the three weeks immediately following the basswood bloom, as that gives our main honey-flow. Knowing this fact I have for years done the most of my requeening at this time of the year, and with success which has always pleased me, without interfering with my crop of honey in the least. To this end I start a greater number of queen-cells than usual, from five to eight days before the expected close of the basswood-honey harvest; and when these cells mature, hunt out the old queen and dispose of her, giving a mature cell 24 hours after having removed the old queen. If cell-protectors are used, the cell can be given at the time of removing the old queen, thus saving once opening of the hive; for, as a rule, the bees allow a queen to hatch all right where a cell-protector is used. If the young queen hatches in an hour or so after giving the cell, or before the bees become aware that their mother is gone, they will sometimes kill her and start cells from their own brood; but if the cells do not hatch in less than from 12 to 24 hours after the old queen was removed, nearly every queen will be accepted all right. A plan which I often use at such times is to raise a lot of cells from my best queen; and, 24 to 48 hours before they will mature, give one to each colony having a queen more than one year old, using a cell-protector for each one, and placing this cell in the sections or anywhere I best can where the bees can cluster about it, without hunting out the old queen at all; when, if the bees have any notion to supersede their queen, they will accept of this young queen and destroy the old one. If they destroy the young queen I allow the old one to remain, thinking that the bees know what is right; and, 19 cases out of 20, where the bees decide on keeping the old queen I find she proves par excellence till after the honey-flow of the next year is over. This is something that does not cost much labor, and one which I have practiced often to my satisfaction.



IMPROVED HIVE-COVERS.

By B. Taylor.

Editor Gleanings:—I have read so many articles in the bee-papers lately about hive-covers that I have concluded to send you a model of the best hive-cover in the world. You know everybody nowadays marks their wares "The best on earth," hence I make my extravagant claim in order to be in fashion. I have used this style of cover for more than 30 years, and believe it to be the best, all things considered, of any in use, past or present. Before I had machinery I grooved them with a common panel-plow, with a narrow bit. The grooving is, of course, to prevent warping, which it does most effectively. You know boards warp because one side becomes longer than the other, caused commonly by one side becoming damper than the other; then the damp side expands, and pushes the board in a circle; the grooves prevent this pushing power, as they allow room for expansion without its pushing effect. I always put the heart side of the lumber up, and groove two-thirds of the way through in three or more

I have tried all kinds of costly covers of more than a dozen styles, and would have none of them as compared with these simple plain boards. They are always convenient in the yard or in winter quarters; they pack in small compass when not in use; are the cheapest of all to make, and will outlast any complicated cover of several pieces; shed water perfectly, if properly made, and deserve their title, "B. Taylor's Handy hive-cover."

Forestville, Minn., April 15.

[This question of grooving a cover-board to prevent warping has been brought up before. We never tried it in our yards.—Ed.]

THE DIVISIBLE BROOD-CHAMBER.

THE QUESTION OF INFRINGEMENT, AGAIN.

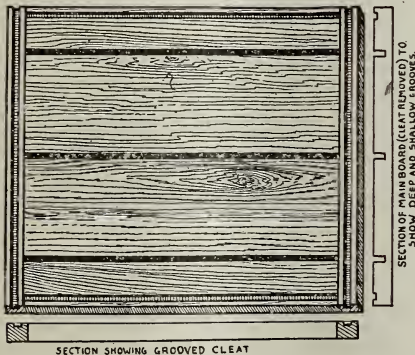
[I had hoped that this question might have been drawn to a close in our May 1st issue. But Mr. Williamson felt that, as he had been an unwilling participant in the discussion, and that, as he did not know his opinion, given on page 268, was to be used for print, he should be given space for further reply. After some correspondence with Mr. Danzenbaker it was granted, on condition that he would allow Mr. Heddon to have the "last say." The article came, and I assume that the condition was accepted. In order to have the whole matter appear in one issue, and to end there, I sent a proof to Mr. Heddon. Mr. Williamson's article is as follows:]

Editor of Gleanings:—It was with mingled feelings of amusement and disgust that I read Mr. Heddon's "Reply to Attorney Williamson," and it is probably foolish to dignify such "reply" by any notice whatever. In fact, were not Mr. Danzenbaker's interests involved in the matter I should pay no attention to it, since the intelligent reader will perceive that the alleged reply is not an answer to my statements respecting his right to hold the Danzenbaker hive to be an infringement of his patent, but, rather, a mixture of irrelevant citations from Walker on Patents, misstatements of the law of patents, and reflections upon my veracity.

It will be a sufficient answer to Mr. H.'s reference to "paid attorneys" to call attention to the fact that, however interested an attorney might be to present his client's case to the best advantage, his interest and consequent bias could hardly be as great as that of a party whose interests are at stake. It is to be remembered that Mr. Heddon is most vitally concerned in the matter in controversy, and that it is *barely* possible that, under the tremendous influence of interest (I understand he gets \$5 for individual rights), he is quite as apt to feel under compulsion to "say something" as would a "paid attorney." I think that, under the circumstances, my statements are fully as worthy of belief as those of Mr. Heddon.

Mr. Heddon says: "Allow me to call the reader's attention to the fact that Mr. Williamson makes no mention of patent law in equity." Permit me to call attention to the fact that the only reference he makes to "patent law in equity" is in his statement quoted above. He may know what he means by "patent law in equity," and its bearing upon his case; but so far as his article is concerned he keeps his knowledge strictly to himself. I rather suspect, however, that he uses this mysterious phrase as a sort of verbal bug-a-boo.

I am surprised, and yet at the same time flattered, that one so well versed in patent law as Mr. Heddon claims to be should admit himself insufficient to cope with me by asking that opportunity be given his attorney to reply to me. It would seem that the gentle reader will be justified in inferring from this admission of Mr. Heddon, that there is some force in what was said in my heretofore published opinion. I am also somewhat startled at the exhibition of inconsistency in Mr. Heddon in his expression of



places, according to the quality of the lumber, a soft board being less inclined to warp than a hard one. I always paint the ends of the covers in the joint before the cleats are nailed on. I cut the tops in lengths before planing; groove them, then nail on the cleats; the covers are then placed on a carriage, and run under a set of planer-knives; and the most beautiful covers you ever saw are made at the rate of one a minute, each one entirely out of wind, and true to a hair's breadth.

Of course, you will ask the reason for the shallow grooves near the edges. It is to prevent the water from flowing under by capillary attraction. I paint both sides of my cover—the under side one and the top two coats of oil and lead. I now have covers made thus thirty years ago, as straight and true as when new.

an intention to fortify himself with the opinion of a "paid attorney," in view of the preceding and succeeding paragraphs of his article. Surely he will not insult the intelligence of the reader by offering the opinion of a paid attorney in support of his case!

Mr. Heddon charges me with misleading statements and mistakes, and not only fails to support his charges in a single instance, but in an effort to make out a case of error on my part he is himself guilty of what he imputes to me. He says, "If Mr. W. knew aught of the state of our art he never would have mentioned 'top covers.'" I challenge Mr. H. to point out the place where I used this expression. On the contrary, I used the phrase "top or cover;" and as Mr. Heddon's patent specification uses this exact phrase, he will probably not insist that such phrase is an inappropriate one, and conclusive evidence that the user thereof is unacquainted with the nomenclature of the art. If Mr. H. could not read these three small words aright, it is little wonder that he falls into grievous error in endeavoring to understand and apply the principles of that branch of legal science which has been characterized as the "metaphysics of the law."

In stating in his fifth paragraph that the claim rejected by the Patent Office and dropped by his attorney is covered by the last eight words of his claim 5, "substantially as and for the purposes set forth," he displays gross ignorance of patent law, and shows that he has not read the "great authority Walker" as faithfully as one should, who assumes to instruct and criticise others in patent matters. This fifth claim of Heddon's patent contains a good deal more than the eight words referred to, and whether or not he can ignore or omit parts thereof to suit his fancy will be made apparent by the following extract from the "great authority Walker," section 349:

"A combination is an entirety. If one of its elements is omitted, the thing claimed disappears. Every part of the combination claimed is conclusively presumed to be material to the combination, and no evidence to the contrary is admissible in any case of alleged infringement."

If Mr. H.'s mode of construing claims by leaving out limitations to suit the exigencies of the case is sound; then, logically, he can cut out every thing but the words "a bee substantially as and for the purpose set forth," and thus be in a position to charge the bees themselves with infringement of his rights!

I also invite Mr. Heddon's attention to section 186 of Walker, which reads as follows: "It is well known that the terms of the claim in letters-patent are carefully scrutinized in the Patent Office. Over this part of the specification the chief contest generally arises. It defines what the Office, after a full examination of previous inventions and the state of the art, determines the applicant entitled to. The courts, therefore, should be careful not to enlarge by construction the claim which the Patent Office has admitted, and which the patentee has acquiesced in, beyond the fair interpretation of its terms." C. J. WILLIAMSON.

Washington, D. C., May 8.

[Mr. Heddon replies as follows:]

INFRINGEMENT.

Editor Gleanings.—As a rejoinder to attorney Williamson's adjoining article, it may not be out of place for me to say that I have not and never have had any ill feeling toward the gentleman, nor is it casting any reflection upon his character, as he would make believe, to state that he, being a paid attorney, dealing with law rather than fact, uses fancy to carry the case of his client. Mr. Williamson must not forget that most bee-keepers have attended circuit court, and know that the spirit of legal work is to leave no kind of stone unturned to advance the interest of the client. I feel that I must compliment attorney Williamson upon his ingenuity in endeavoring to make a case without any material.

Does it not seem strange that my quotations from Walker should be called "irrelevant," and "mis-statements," by the learned attorney? I quoted them word for word; and if they are irrelevant, would not your readers know it, without the gentleman telling them? and if not, of what use is his bald assertion, without any explanation, in Mr. Danzenbaker's case?

Mr. W. thinks my interest is great because I sell

individual rights for \$5.00 each. Perhaps so. I have sold over 500 such rights, and perhaps a hundred counties at \$25.00 each; and after nine years Mr. Danzenbaker seems to have discovered the value of the products of my labor, and at once employed an attorney to see if there was not a flaw in my title by which he might jump my claim.

As to patent law in equity, attorney Williamson did say there was no such law; but now, having discovered his mistake, he seems to admit that there is. He says I do not explain of what use equity is to me. I will endeavor to explain: Equity will undo and set aside every citation from patent law that Mr. Williamson has brought up in all he has written. It will examine the state of the art ten years ago, and give to me all that is mine. In other words, if Mr. Danzenbaker, aided by his able attorney, should be able to find a weakness in the title to my property, equity, as the word indicates, at once comes to my protection. For positive proof of the foregoing, I refer you to Walker's text-book, edition of 1885, page 401. This shows that my former statement, denied by Mr. W., is absolutely correct, and that alone clinches my entire argument, because that court of equity in patent law, established in 1870, will give me what is mine; and I call the learned attorney's attention to the fact that the brightest and best-posted bee-keepers all over the country—men who know vastly more of the past and present state of the art than any patent-lawyer would know—pronounced my invention startlingly new, unique, and original. Talk all you may of the technicalities of my title, and yet bee-keepers know that the Danzenbaker hive is nothing more nor less than an infringement of my invention, and that, if he wants to use his sheet-tin rest, he should use it independently of my divisible brood-chamber, and frames closely fitting each other and the case. I am daily in receipt of letters from bee-keepers with whom Mr. Danzenbaker is corresponding, and in nearly all cases they send me his letters to them. These letters lay special stress upon the advantages of the special functions of my hive, but not one line have I yet seen concerning a single feature claimed in the Danzenbaker patent. I respect the Danzenbaker patent, although I consider it upon worthless devices; but whether worthless or not, I should keep my hands off.

Attorney Williamson knows so little about our art that he misunderstood me regarding "top-covers." I had no reference to the way he used the words, but the significant fact that he said anything about covers at all. Bee-keepers will understand me. Regarding his quotations from Walker, they are fully answered and annulled by those I previously quoted in this journal, and found in my circular to bee-keepers. But, laying this all aside, the patent court of equity, the existence of which Mr. Williamson undertook to deny, will set these all aside, and give to me what is mine. This, Mr. Williamson can no longer deny. Nearly every well-read bee-keeper knows better than does Mr. Williamson, what belongs to me. The learned attorney excels the bee-keeper only in the matter of legal titles.

I hardly think that my opponent should be proud, and "feel flattered," because I admit that he knows more about the legality of patent deeds, and their fitness to the property they intend to cover, than should a bee-keeper who has made patent law only a side-issue study. However, when I received proof of his subjoined article I discovered at once that I needed no patent-attorney to wipe out his arguments as a July sun would melt a snowball. But let me again compliment Mr. Williamson by stating that he has no case, as he evidently knows, and that bee-keepers of intelligence are all against him and his client; knowing, first, that the Danzenbaker hive has no merit except as it incorporates my special features, and that, after so doing, his changes and additions nearly ruin the hive. But you may rest assured, Mr. Editor, it will not be long before this court of equity will be tried, and I will endeavor to substantiate every claim I have made.

Please allow me to refer to the Train, Terry, and Harris patents, as cited by you in a former issue. In these patents, as in all others, it is a divisible hive and not a divisible brood-chamber, for specified purposes, that is referred to. We have always used divisible hives, but not divisible brood chambers, as specified in my patent. Mr. Danzenbaker said truly that father Langstroth was robbed, but that I had nothing to be robbed of. That is just what they said when they were robbing Langstroth. How perfectly history repeats itself! JAMES HEDDON.

Dowagiac, Mich.



MRS. HARRISON'S RETURN.

Last autumn my attention was directed to the lateness of the season in which bees were working—carrying water, and pollen gathered from asters in the river bottom, into November. I was requested to make a note of this as bearing upon the winter problem. The colonies were left upon their summer stands, protected in the upper story with chaff cushions. On my return from Florida, April 15, all of the colonies responded to my "How do you do?" with the exception of four. Since then, in cleaning out these hives, I judged from appearances that they were queenless in the fall. The past four seasons had been poor for honey, and, having other duties more important, the bees were left to their own sweet will. I shall hereafter consider the rearing of young bees in the fall as one of the adjuncts to successful wintering.

SPRING FLOWERS.

My way from Florida north was through perpetual bloom, extending to Southern Illinois, Alabama taking the prize. Her woods were in fitting garb for the Eastertide. Some of the trees that I was told by residents were dogwoods, were entirely covered with white blossoms, without leaves; others had green leaves among the white bloom. Pink honeysuckles, so light and fairy, were a thing of beauty, and, when once viewed, will never be forgotten. North of Montgomery the yellow jessamine was very abundant, climbing to the tops of the small pines, and bending their heads with the weight of bloom. Passengers came into the train carrying bouquets and baskets of flowers, and boys offered them for sale at the stations.

The orchards of Tennessee were in full bloom, and a passenger from Nashville informed the writer that they had had no fruit there for three years, but had great promise for this. I was surprised, on reaching Southern Illinois, to find the peach-trees in pink, and still more so on reaching home to find the buds showing pink in our garden. Fruit-bloom has been very abundant in this locality.

Peoria, Ill.

HOW TO PREVENT THE FLAT COVER FROM WARPING.

I see there is some trouble from cleated flat covers warping, and, in consequence, you have devised a new cover to take its place. Now, I have nearly 100 of the old covers, which have been in use from one to four years, and they never warp or check, and are as true as if made of sandstone. The bottom-boards are the same. This is the way they were put up: Before putting the cleats on the ends, the ends of the cover were given a heavy coat of white-lead

paint. The groove in the cleat was given the same, and put on and nailed into the end of the cover-board while the paint was still wet. They were then painted two coats all over, and the crevices filled with paint, so that the cleats were as secure as if they had grown there. The bottom-boards were painted on all sides; but the covers, being covered with tin, were painted only on the parts not covered by the tin, except at the ends. My hives are exposed to the sun and weather the year round. They are of pine, and were made by you.

ALBERT WITTENMYER.

Emison, Ind., Feb. 25.

[We never had any trouble with the flat covers ourselves; but a few reported that they did. The painting of the ends of all boards for cleated covers, of the old-style flat, or the new Higginsville, will add greatly to the durability of the covers.—Ed.]

HIGGINSVILLE COVER WARPING.

Editor Gleanings:—On page 13 of GLEANINGS for Jan. 1 you say, in footnote to my letter, "The Higginsville model, besides the cleats and gable strip, is made up of two boards; and theory as well as practice shows that the warping tendency of the one will correct that of the other." I am not much on theories, but I have had five of these covers in use four weeks; and although it is not yet summer they are warped and twisted worse than any flat cover I have. My covers must act differently from those belonging to others; for, instead of the "warping tendency" of one "correcting" that in the other, it seems to aggravate it. Two of the covers fit fairly well, except that the groove is too wide at the ends; and the thin edges of the covers curl up. Two stand on three legs, and the thin edges bow up. One does not fit down square, and the cleats are warped so as to almost let the thin edges out of the grooves. The gable strips of all are warped. I have not a single flat cover in the yard but that is in better condition. They are lighter, and blow off easier, though no cover is safe here unless fastened on or weighted.

UNCAPPED FRAMES OF HONEY GIVEN TO BEES IN THE SPRING.

I find from careful tests, that, from each pound of capped honey, the cappings if saved will make on an average about $\frac{1}{4}$ oz. of beeswax. This is quite an item when beeswax is 30 cents, and extracted honey 4 or 5 cents. I have saved as much as 50 lbs. of wax from 30 colonies, run for extracted honey (spring count); just from cappings with scrapings of hives and frames.

CLARK A. MONTAGUE.

Sang Run, Md., April 15.

[This doesn't tally with the experience of others along the line of covers. You say the cleats are warped so as to almost let thin edges out of the grooves. There is actually more wood in a cross section of the Higginsville cleat than of the ordinary flat cover. Under the same conditions it should warp actually less. You say further that the grooves are too wide

and that the thin edges turn up. This is not a fault of the principle but of the workmanship, and if you got the covers of us you are entitled to a rebate. You do not say one word about the use of paint. Without it I should not expect any cover to stand true. Well, let's have the truth, at all events. I'd like to hear from others.—ED.]

WHY THE HEDDON HIVE IS NOT APPRECIATED.

The reason some apiarists fail to appreciate the many advantages offered by the Heddon hive is that they do not understand the peculiar system of management which the successful manipulation of this hive requires. Mr. Heddon seems to think he is not called upon to promulgate this system till he gets ready; but I say he has no right to patent an article and then withhold from the interested part of the public any thing essential to its use; for by such patent he debars others from discovering the patented principle who would place it before the public in a shape that it could be used.

In the Heddon case, the hive is secondary to the system of manipulation which it admits of; for without such system the hive is no better than, if as good as, the Dovetail; but having a knowledge of the proper way to handle the hive, one can do from two to four times the amount of work in a given time that he can with any other hive.

Loss in this (Linn) county, 95 per cent for this winter. F. H. RICHARDSON.

Laclede, Mo.

MUD-FLINGING OR HOLLOW PRAISE.

Dr. Miller, in a recent *Stray Straw*, refers to a "good time" Editor Leahy had with J. T. Calvert, and proceeds to remark: "Now, you can fling all the mud you like at the mutual-admiration business; but that sort of talk makes a good bit nicer reading than mud-flinging." Has there been any "mud-flinging" in regard to this matter? Is it fair to use a term of this kind to characterize disapproval of a too liberal use of "taffy" in certain quarters? Honest criticism should include commendation when it is deserved, as well as the pointing out of faults; but there is such a thing as flattery, and it is most abominable and mischievous. Are there not often words of praise in the bee-journals that every one knows to be mere hollow compliments, intended to make and keep those to whom they refer good-humored, pleased with themselves and with others? Is it not plain that there is a virtual compact in some quarters, "you scratch me and I'll scratch you"? Is this manly, truthful, not to say Christian? One of the wise and good men of the olden time said, "Let me not, I pray you, accept any man's person; neither let me give flattering titles unto man; for I know not to give flattering titles; in so doing my Maker would soon take me away." We are taught on high authority that "a man who flattereth his neighbor spreadeth a net for his feet," wherein

he is likely to be tangled with vanity and pride. Again, "He that speaketh flattery to his friends, even the eyes of his children shall fail;" i. e., they shall lose the power of moral perception, and be unable to discriminate between truth and falsehood, good and evil. One of the grandest characters that ever lived in this world could appeal to those who knew him and say, "Neither at any time used we flattering words, as ye know." I wish every writer in the bee-journals could truthfully say this, and that there might be an end to all vain and fulsome flatteries. Flattery is lying, and a liar is despicable. The dictionary definition of "flattery" is, "To inflate with blandishments or exaggerated praises; to deceive with fair words; to cajole; to wheedle; to coax; to attempt to win by artful compliments; to soothe or gratify by praise or obsequiousness; to please a person by applause or favorable notice; to compliment." It is time the columns of the bee-journals were for ever closed to this kind of thing. WM. F. CLARKE.

Guelph, Ont.

[What Mr. Clarke has to say is very good—yes, excellent; but that bee-journals or bee-keepers are frequent offenders in the use of "words of praise . . . that every one knows to be hollow compliments," GLEANINGS is not prepared to admit. There has been no "mud-flinging" at the "mutual-admiration society" so called; but there is such a thing as mud-flinging at individuals that is ten times more "abominable and mischievous" than any flattery I ever heard or read.—ED.]

PETITION.

Whereas, the Hon. Secretary of Agriculture, in his last report to the President, says, "The Entomologist strongly recommended as a part of the work of this fiscal year the attempt to introduce into the U. S. from Ceylon the 'Giant bee of India,' *Apis dorsata*," and

Whereas, it now remains with the bee-keepers and farmers to unite in petitioning the proper authorities to carry out the work recommended by the Entomologist, therefore,

Resolved, That we, the bee-keepers of Ontario Co., N. Y., in convention assembled, respectfully ask the publishers of the bee-papers to print and distribute with their paper a petition to be circulated by each subscriber, the extra expense to be shared pro rata by the various bee-keepers' societies throughout the United States.

C. A. OLMSTEAD, }
E. H. PERRY, } COM.
E. HUTCHINSON, }

RUTH E. TAYLOR, Sec., Bellona, N. Y.

CLOSE-FITTING FRAMES.

Close-fitting frames, as Mr. Heddon uses, won't do south. They will swell so at times, especially in winter and spring, that they can't be pried out. I knew from trial, and I had more play than he gives. A. F. AMES.

Claremont, Va.

DIXIE LAND; THE VERDICT OF A MAN WHO IS NOW IN CALIFORNIA.

I read A. I. Root's southern travels with the greatest interest. What he says is every word correct. When he says that Dixie is "just slick," he is right. I have been over Uncle Sam's domain, and know of what I speak. Taking it all in all, the South is hard to beat. If you look it up you will see where you shipped goods to me in the State of Washington. I lived five years in Florida, fourteen in Texas; was raised in Kentucky. I lived in Washington ten years, and this is my second year in California. I spent five months in San Diego Co., and have a tolerably fair idea of most places, and my choice is Southern Alabama.

Upper Lake, Cal.

G. P. SHIRES.

[If our readers will turn to page 355 they will see that Rambler mentions meeting friend Shires in California.—Ed.]

BEE-STING POISON, ETC.

Bees are doing finely. I had 26, spring count, now 56. Last evening I transferred the Italian colony from the box hive to one you sent. Twice in my lifetime bees have thrown something into one of my eyes. It smarts and turns red immediately. I have never heard of any one else who is troubled in that way.

Box Elder, Va., May 18.

J. H. ALLEN.

[Friend A., I have many times, while near angry bees, felt the sensation you describe; but, as you mention, I do not know that I have ever before seen it in print. Sometimes when you open a hive during cool weather, cross hybrids will elevate their stings, and you may see a little drop of poison hanging to the sting. If you take the trouble to taste this you will find it a very pungent, acrid poison. Now, I have sometimes thought that an angry bee might, while on the wing, flit or throw this poison so it might go into a person's eye. Under similar circumstances we often smell what we call bee-poison. In preparing stings for medicine this is quite perceptible, and some people seem to be disagreeably affected by being around when this poison seems to be very much in the atmosphere. Very likely it is more or less volatile, and the odor of it in the air may affect the eyes, and perhaps other organs. Can somebody tell us more about it?—A. I. R.]

DESTROYING SWARMING-CELLS; LANGSTROTH VS. SECTIONAL BROOD-CHAMBER FOR THE PURPOSE.

In that valuable article by E. France, in GLEANINGS, Dec. 15, on out-apiary management, he puts the key to his plan of swarming-time management by periodic visits in a line or two of print, and it is a pity, seeing the amount of work and care involved in following his instructions, page 934, viz., "*Be sure no queen-cells are left in any colony,*" and, further down, "*Leave no queen-cell in the old colonies,*" to let it pass without comment. It is truly good sound advice; but with the L. frame and hive, how laborious! how risky! all hinges on *not one cell being missed* in the work of destruction. A mere cup with an egg in it, accident-

ally overlooked, means a swarm issuing before the 10th day comes round, and with it the apiarist. This plan of getting the swarming-date of a number of colonies on the same day, so dispensing with a watcher, is one I have carefully studied and followed in my out-apiaries for three seasons past. But I give them now but nine days between visits; and when there, instead of destroying cells one by one, I turn each of the brood-cases upside down, which effectually and positively destroys all embryo queens, and none can escape, and the colony is safe for nine days. This colony is swarmed on next visit; also all others like it previously inverted. The other colonies are inverted if strong, or likely to swarm; and if they have cells *sealed* next visit, they are swarmed in their turn; but if they have young cells, or none at all, they are inverted again and are safe till next visit, and so on with all hives as they advance to swarming strength every nine days for the two or three months of our swarming season.

This inverting has other advantages that have been set forth by other writers, including Mr. Heddon, whose hive, or a modification of it with hanging frames, I use in my out-apiaries; but I have not seen its superiority in this respect, and the rapidity and certainty which with it the cell destruction essential to such a system of periodic visits can be accomplished, set forth anywhere. Any easily inverted hive would have the same advantage over non-invertible as the Heddon type has. Inversion is not a mere fanciful and pretty idea; it is to me the key of out-apiary success, and does away with all need of swarm-catchers, and hivers and traps and appliances outside the hive itself.

T. BOLTON.

Dunkeld, Victoria, Aus.

I have had the same trouble John K. Goodrich had. Some thieves carried away three hives of bees at different times, and the arrangement spoken of in GLEANINGS seems to be just the thing. Would you please tell where such a battery could be bought? Others might be glad to know.

GUSTAVE GROSS.

Milford, Wis.

[A battery and an electric call-bell outfit can be purchased at any of the electrical-supply houses for about \$2.50. Write to Stanley & Patterson. New York City.—Ed.]

THE STRENGTH OF BEES.

A French naturalist, Mr. Plateau, has tested various insects to ascertain their strength, and finds that the smallest ones are very often the strongest. According to his experiments, a bee can drag off 30 times as much as a horse can, according to its size. One bee dragged easily 20 others, and showed a power proportionate to a locomotive. What astounding muscular power the bees must have, we think, when we

remember that the weight of a whole swarm hangs from a limb, when but comparatively few bees touch the limb itself.

Medina, O., May 23.

K. R. MATHEY.

SOME UNSCIENTIFIC AND INACCURATE TEACHING CONCERNING BEES, IN A COLLEGE TEXT-BOOK.

Mr. Root:—In a book at present used in the State Normal College, in Albany, entitled "Comparative Zoology, Structural and Systematic, for use in Schools and Colleges, by James Orton, A. M., Ph. D." new edition, revised by Charles Wright Dodge, 1894, Harper Bros. publishers, I find the following statement in relation to the bee:

"They exhibit three castes—females, or queens; males, or drones, and neuters, or sexless workers. There is but one queen in a hive, and she is treated with the greatest distinction, even when dead. She dwells in a large pear-shaped cell, opening downward. She lays three kinds of eggs: from the first come forth workers; the second produce males, and the last females."

I send this as a bit of curiosity, showing how the colleges are advancing(?) in bee-knowledge. Menards, N. Y. JACOB KAUTZ.

[Such scientific (?) teaching is disgusting. If it is a fair sample of the accuracy of the other matter in the book I should be sorry to have my boy use it as a text-book. The authors evidently got their knowledge on bees, such as they do have, from a very careless reading. It is very unsafe for *any one* to write on the subject without a little practical experience to throw light on what he is reading. Prof. Comstock's book, notice of which appeared on page 409, last issue, is in marked contrast. Prof. C. went to the bees himself.—Ed.]



EIGHT extra pages as usual.

The *Apiculturist* for March, April, and May is here, bound in one cover, but not any fatter for the consolidation. Is it a quarterly?

"Rev." is the title in front of Emerson T. Abbott's name, as printed in the *A. B. J.* That may be a Rev.-elation to some; but it belongs there, and deservedly.

THE new bee-paper, the *Southland Queen*, is out, issued by the Jennie Atchley Co. It contains 22 pages and a cover, and is edited by the Atchley family. Monthly, \$1.00 per year.

THE accurate and scholarly typography of the *British Bee Journal* is a pleasure to those who are pleased in that way. In this respect it presents a marked contrast to—some of us.

THE late frosts that have prevailed throughout the country have done a good deal of damage; but we hope they have not affected the nectar-bearing flora that will come on later.

AFTER a trial of 30 years, Dr. J. P. H. Brown, in the Southern Department of the *A. B. J.*, says, "I am satisfied it does not pay to cultivate plants exclusively for the amount of the nectar-secretion."

E. B. WEED, in the *Canadian Bee Journal*, claims that the bleaching of wax in sunlight gives a better result than by the use of acids. We believe that is the position taken by Mr. Mathey, whose articles on wax we are now printing.

WM. McEVROY, the foul-brood inspector of Ontario, reports bringing 109 colonies through the winter in good condition, not losing one. That's something on the Boardman style; and several others in Canada report wintering with little or no loss.

FOR the first time since *Stray Straws* were published, we have failed to receive our installment for the current issue. We have not learned the cause up to the time of going to press. Kind o' suspect the doctor prepared them, put them into an envelope, then into his pocket, and forgot to mail 'em.

DURING the preparation of a part of this number I have been somewhat under the weather, but I am now coming around all right. The consequence is, most of the editorials were written by W. P. He prefers to use the editorial *we*, because, he says, it rhymes with P. So you can designate his by the use of "we."

WHAT shall the harvest be? is a conundrum with bee-keepers all over the land. Indeed, it is a conundrum every year; but it seems to be more so this year than ever. Mr. Harry Lathrop, of Wisconsin, writes that the prospect is poor. Last year Wisconsin suffered terribly from the drouth, and many of the bee-keepers obtained little or no honey; but Mr. Lathrop did well.

WE copy the following from the *Newaygo Republican* of May 9. It fully accounts for the fact that Bro. Hilton has been *missing* for some time.

Hon. Geo. E. Hilton returned from a week's stay at his home yesterday. He is receiving many congratulations from his colleagues upon the fact that he is the proud father of a nice little girl. Time bears out the prediction made in the first of this series of letters that Mr. Hilton would prove to be one of the most popular as well as active and useful members of the House. No man is more highly respected than he, and no man in either House has more friends. He has much influence; and it is

needless to say to Newaygo County readers that it is never exerted in a bad cause.

In the *Apicultural Review* (Spanish), published by Mr. Andren, at Mahon, Balearic Islands, near Spain, we learn that indications for a good crop of honey are very favorable—plenty of rain, and an abundance of flowers. The editor says the price of wax is steadily going up, while that of honey is continually going down. He recommends the policy of keeping bees for wax only; and his article on the "Production of Virgin Wax" is so timely that we will translate it for a future number.

WOOD-BASE FOUNDATION. AGAIN.

SINCE our mention, in the last number, on p. 408, of Schmidt & Thiele's foundation, we have received another sample having a very much thinner wood base. S. & T. write concerning it:

We herewith send you another sample of our veneer foundation. The veneer we use now is only $\frac{3}{16}$ of an inch thick. This will not warp, or trouble in cutting queen-cells, and is still strong enough to keep the combs from melting, sagging, breaking, falling out of frames when handling or extracting.

This is a big improvement over the first sample received. Of course, it can not possibly sag, and would, I have no doubt, make good brood-combs; but I am still inclined to think it is more expensive than ordinary brood foundation such as is generally sold. A great many times old things that have been discarded and declared valueless in the past, have come up again and demonstrated that there is something of value in them after all. Possibly the wood-base foundation of Schmidt & Thiele may be one of the things of this kind. I have no doubt they would be glad to send samples to any one desiring to see it. Their address is New London, Wis.

THE STANDARD DICTIONARY—A GREAT WORK.

AFTER five years of labor on the part of 247 editors and a host of helpers, and the expenditure of a million of dollars, this superb dictionary is finished, and it is far ahead of what the publishers promised at the outset. It defines every English word and its derivatives, with every shade of meaning, in every branch of science and art, making a total of 301,895 words, or 55,000 more than Webster's International. The time has past when any one man might write a dictionary of our language; hence on the Standard a specialist was engaged on every line of human thought and work, such as astronomy, botany, chemistry, electricity, physiology, etc. In defining apicultural terms, for instance, Dr. C. C. Miller was engaged. When Webster's latest edition was published we were surprised at some of the apicultural definitions, especially under the word "Propolis," which is spoken of as forming the capping of honey-cells. Finding it was too late to have any corrections made in Webster's, we immediately wrote to

the publishers of the Standard, which was then completed only to the letter B, and urged them to secure the services of Dr. Miller on behalf of bee-keepers. They did so just in time, for the old errors were beginning to show again as the word "Bee" was reached. The publishers immediately corrected the type so as to correspond with the suggestions. So far as apicultural terms are concerned, we find no room for improvement nor ground for complaint in the Standard. This is not intended as an invidious comparison against the International, which, at the time of its publication, was the best dictionary ever printed, but to show the great advantage the last one has in profiting by the mistakes of others. The publishers of the Standard have had some of the most prominent editors of Webster's, The Century, Britannica, and other lexical works, on their own staff, and have left no means untried for securing information wherever it could be found. The English press as well as American pronounces the highest eulogies on the Standard.

The defining part of the book contains just 2100 pages, printed in very fine type, copiously illustrated with new cuts (about 5000). Birds, badges, colors, coins, flowers, precious stones, etc., are shown in their natural colors, and not all in dull black. The different parts of modern machinery, such as engines, type-writers, knitting-machines, looms, etc., are fully shown and numbered; also the bones, veins, muscles, etc., of man and animals. The locomotion of dogs and horses is shown by numerous pictures taken from snap-shot photographs that were taken at different stages of the step, run, amble, or leap. This feature is very unique. The book not only describes the word "apple," but describes fully every known kind—about 368; and when it comes to the weights and measures of the world, one feels lost as in a labyrinth. The principal words used in all the arts, such as architecture, carpentry, printing, etc., are grouped by themselves, besides being defined in their proper place. Some 218 pages are devoted to grammatical corrections, pronunciation, foreign phrases in several languages, disputed spellings, etc. The quotations used are on the side of morality, Christianity, and temperance.

The printing of the book is as good as human skill can make it—every page being like those found in our standard magazines, and the binding corresponds. But the best idea the reader can obtain of the book, without buying it, is to send 10 cts. for sample leaves of it, which will show more at a glance than we can say for it in a day. Address The Funk & Wagnalls Co., 30 Lafayette Place, New York.

This is not a paid "puff" or editorial in any sense of the word. It is written without any knowledge on the part of the publishers of the Standard, and simply because bee-keepers will find the book to be so reliable in defining apicultural terms.



HONEY FOR HORSES.

You may suggest it would be a rather expensive feed. Well, circumstances alter cases. It may not be so expensive after all. Listen. Friend McMillan wanted a pony to go to town with, and to run around the neighborhood. A neighbor offered him a mustang at a very low price, because the animal was vicious and unmanageable. Friend M. and his good wife, however, decided they could educate the pony to be useful, and the neighbor brought him over. It took two men to deliver the new purchase—one to drive and the other to lead the horse by the bits; and as it was, they came in sweating and puffing, and seemed very glad indeed of the privilege of turning over the property to its new owner. How did they make out? Well, it was my pleasure to have very many pleasant rides around the country with that same pony. Now for the secret. I have heard of \$50 secrets, and I do not know but this one would add \$50 to the value of very many a balky or vicious horse. I think the credit of the discovery belongs to the good kind-hearted Mrs. McMillan. I suppose you have heard it said that the shortest cut to a man's heart is down his throat. Everybody knows it is not true, but there may be a *grain of truth* in it. Well, Mrs. M. set out that very first day to win not only the affections but the good will of the mustang pony. She gave him bread and butter and honey to start with. Come to think of it, I do not know but the butter was left out, and so it was only bread and honey. The tempting morsel hit the spot exactly; and after the pony had had a good slice of bread, with a liberal allowance of honey, he would nod his head with satisfaction, and do almost any thing they wanted him to, for a *whole hour*.

We were late in starting out; but when we got hitched up, and I was in the buggy, the pony made a bee-line for the back door of the kitchen. His benefactress came out to give him an approving word; but friend McMillan said we were so late we shouldn't have time to wait for him to have his accustomed sweets. The pony looked terribly disappointed, and evidently had almost a mind to go back to his old life, and act badly. I plead for him; but friend M. said he was old enough to behave himself without being coaxed like a baby *every* morning, and made him go on. He went very well till we came to the store and postoffice; and I presume, as this was a frequent program, he expected us to turn back and go home, refreshing himself by the way, no doubt, in thinking how nice that bread and *honey* would taste when he got back. His master, however, had planned a long trip for him, before getting home; and when his head was turned in another direction we came so near having a circus performance right in the public street that I wanted to get out. My companion, however, assured me he would bring his horse around all right in a few minutes. When I questioned him as to how he *knew* he would, he said they two had had a good many rough-and-tumbles in the sand, and the pony knew that he knew who came out on top every time at the ending. So the pony, philosophizing, evidently, that "what could not be cured must be endured," took us all over the surrounding country before we got home. I want to stop right here long enough to tell Mrs. M. to go and give that pony an extra piece of bread, well sopped in good

honey, just the minute her eyes meet this in GLEANINGS.*

In the neighborhood of Fort Reed is a most beautiful country residence belonging to Rev. Lyman Phelps, whose writings perhaps many of you have seen in the religious papers. He has not only a magnificent orange-orchard, but peaches, pears, strawberries, and ever so many other fruits right along the margin of one of the prettiest little sheets of water (Silver Lake) to be found in Florida.

Sanford has something unique in the way of sanitary arrangements. The sewage is in a series of open ditches, covered only at street-crossings. Well, at the head of each street, away off at the back side of the town furthest from the lake, an artesian well has been put down. I think they have to go something less than 100 feet in order to meet an immense flow of water. These artesian wells send a sufficient current over and into the lake to wash all the filth and every thing else out of the open ditches as soon as it falls in. One feels like protesting against such a waste of water; but everybody says the supply is inexhaustible. No matter how many wells you put down, or how large, they just flow and keep flowing, year in and year out; and yet with all this abundance of water, that runs of itself up to almost any height desired, it is only here and there that it is as yet made any use of for irrigation.

I had arranged to meet Constance, who was stopping with relatives in Jacksonville, at Sanford; but there had been no very definite appointment; and hunting for strangers away down in the interior of Florida, when you didn't even know when they would be along, seemed a good deal like hunting for needles in a haystack. I inquired for Mr. Ming, a cousin of mine, connected with the Orange-belt Railroad; but although all the railroad men assured me he was a "mighty good fellow" nobody could just then put his finger on the man. I began to get somewhat homesick. I always do when I have time, therefore I usually manage when away from home to avoid having time for any such recreation. I was up very early in the morning, before any one else was stirring. I finally met a porter who was hustling up a drummer that he might not miss his train. I felt restless, and wanted to go somewhere, so I concluded to go on the same train with the drummer. It was on the Orange-belt; and just as soon as I stepped aboard I almost ran against my cousin, Mr. Ming. He said the women-folks, Constance included, would be in on the afternoon train from Jacksonville. It did not stop raining just that minute; but if you had looked into my face you might have thought there was very bright sunshine everywhere. Now, perhaps some of our readers do not enjoy having me tell about how an unseen presence often seems to guide my steps. When I arose that morning I prayed earnestly, and yet I am afraid with very little faith, that God would direct me on that rainy morning, so that I might find Constance and my relatives. As soon as I heard the porter say this man would be late for the train, without knowing *what* train, or on

*Every bee-keeper knows how passionately fond of honey bears are. Well, several circumstances seem to suggest to me that this strong love for this peculiar form of sweets is not confined to Bruin alone. Bruin, by the life he leads, has an opportunity for discovering honey, and to satisfy his craving for it, while other animals have not; and may we not take advantage of this strong liking and use it to put a horse on his good behavior? Will somebody test it on a balky horse, and report? After he has acquired the appetite, the honey would surely serve to divert his attention from his "sulks," if nothing more.

what road, I felt a strange longing to take that very train too. I had just been feeling that I must do something, or go *somewhere*, that dreary, rainy morning, and the way seemed to open almost of itself. Do you remember that old hymn,

He leadeth me?

Mr. Ming said he was going down to Oakland, and would be back in the afternoon; and as I had nothing else to do he said I should come along and look at his road, and see the country. As we passed through Palm Springs I got just enough of a glimpse to feel sure I wanted to stop there. A little further on we passed, quite near Oakland, a solid hundred acres of oranges. Over the arched entrance to the grounds I read, "Forest City Orange-orchard." I was told by my companion that it belonged to some prominent merchants in Cleveland, O.

Constance was evidently as much delighted in the afternoon to find her father where she least expected him as I was to see her. Before leaving Oakland, however, I got a chance to run up to Palm Springs, and investigate. In a little shady nook were great palm-trees that threw their protecting branches all over and around, and a beautiful crystal spring boils up, sending out a volume sufficient to make a good-sized creek. The waters are just warm enough for nice bathing, and there are seats arranged on the mossy banks, making it a most inviting place for picnickers or pleasure-seekers. Learning of a bee-man only a mile and a half away, I walked out to see him, and met a generous welcome. He had suffered by the frost, but was very busy putting his ground in good shape again to put in another crop. The bee-hives, the fruit-trees, the different buildings for poultry, grain, domestic animals, etc., scattered through a large dooryard, made one think of the old-fashioned farmhouses. While others were complaining, and saying that farming does not pay, and that there was no use of planting any more orange-trees, nor in *fussing* with them any more, he and his good wife were bright, hopeful, and enthusiastic. "Why," said he, "Mr. Root, I sold over \$600 worth of oranges right out of this dooryard, in 1894. Why should I give up and get discouraged?"

The Orange-belt Railroad has packing warehouses along its whole length. Sometimes it seems as if there were an orange-house and station every mile; and, in fact, some of them are less than a mile apart. In consequence of the freeze, however, business was, as might be expected, dead, and things looked dull.

Our party left Oakland in the afternoon, catching me on the train, and went through to Tarpon Springs that Saturday night. On the way to Tarpon Springs we passed through the great tomato regions round about Claremont and the strawberry-farms near by. We passed the Sabbath at Tarpon Springs. Here, as in almost every town in Florida, were very pretty churches, filled with good audiences who listened to able and intelligent pastors. Tarpon Springs gets its name from another of these wonderful springs, connected, evidently, with the artesian water. This spring is so great that pleasure-boats of all kinds run out into the lake and gulf adjoining. This water, however, has a dark color, similar to that I have spoken of that gets its hue from the roots of the saw-palmetto. Iron pipes have been screwed together, and pushed down into the crater of this spring some 200 or 300 feet. They did not touch bottom even then; but the sides of the cavern presented so many shelves that the rod would strike on a projecting shelf and prevent going down any further. Well, this spring is intermittent, and it is supposed to have a subterranean connection with a lake several miles

away. The water in the lake is dark, like the waters of this spring; and during a severe drouth, when the lake is nearly dry the water stops running. Is it possible that the artesian wells of Florida are fed by the multitude of lakes standing on higher ground? Almost the entire soil of Florida is so sandy the water would readily get down through into the rocky strata composed of coral, and the phosphatic rocks that are opening up such a great industry just now.

We stopped at a hotel called the Ferns, and I for one came pretty near falling in love with the Ferns, the town, the spring, the people, and especially with the old white-haired pastor of the Congregational church. I called on him before services, and then had the pleasure of listening to his talk to the Bible-class before preaching.

At an early hour Monday morning we stepped off the train at St. Petersburg, at the southern termination of the Orange-belt Railroad. The first thing that enlisted my attention was seeing horses and wagons, away out in Tampa Gulf, not only half a mile, but a whole mile from shore. These wagons went out to get freight from the boats, and there was a regular traffic back and forth all day long, taking advantage of the rise and fall of the tide, as a matter of course. The bottom of the bay is hard, firm sand, and level enough to be good wheeling. They say the horses have learned the trade so well that they go out in the water anywhere, providing they can keep their noses above the surface. But I tell you it looks funny to see a regular traffic going on all day long, sometimes with the horse, and wagon too, almost submerged with the exception of the box holding the merchandise. I suppose they have regular pathways, and know where they can go and where they can not. When the tide is out, people walk along the sandbars out into Tampa Bay for fully half a mile. The sand is clean, and furnishes nice firm walking. The Orange-belt Railway has a new pier which runs out from shore a *full mile*. They evidently expect to be ready for business when it comes again.

St. Petersburg is a great fishing-point. There are crowds of tourists fishing all day long, almost the whole length of the pier; and I am told there are parties who furnish tackle and bait; and not only that, they put the bait on and take off the fish. All the stranger has to do is to take the pole, throw out the line, and pull them in. All this is provided *free of charge*. You can fish to your heart's content without soiling your fingers, or investing a nickel in anything. Whv, this ought to be the fisherman's paradise. Even fine ladies can fish, and wear their kid gloves. Oh! by the way, perhaps it were well to mention that all the fish caught belong to the *owner* of the fish-poles, etc.

Our party took dinner at the big hotel—price 75 cts.; and the house was so full of guests that one sometimes had to wait *two hours* to get a place at the table. Now, you do not know A. I. Root very well if you think he is going to wait two hours for dinner. Just ask Mrs. Root how *she* thinks such a program would work. Well, I found a little humble restaurant called the Woman's Exchange. There was not very much style about it, but I found every thing neat and clean, and they gave me a great abundance of nicely cooked fish (such as they were catching all the while out on the pier), and the bill was only about 25 or 35 cts. This included coffee, potatoes, bread, and sauce. The Exchange is a branch of the W. C. T. U. work. They were nice friendly women, and they told me their principal reason for starting a res-

taurant was, there was no place where one could get a comfortable meal at a moderate price without going to the whisky and beer saloons. Of course, I do not give thanks out loud when I sit down in a public restaurant, but I several times gave loud thanks all to myself for the privilege of finding a place where I could get my dinner, supper, or breakfast, right away—well, say as quick as Mrs. Root would get it herself—and be waited on by good, pure, clean Christian women. When I contrast such a place with those I am sometimes obliged to put up with—say a meal of victuals served in a beer-saloon—I should call the temperance restaurant a little heaven here on earth compared with the other place. You can call the other place what you choose. Now, when you go to St. Petersburg, just go into that Exchange and say an encouraging word to them. Constance thinks I am a little extravagant in my praise; but I am just giving you A. I. Root's opinion.

About six miles out from St. Petersburg I found our friend Charles Norman, whose articles have made him more or less acquainted with our readers. He is located away out in the wilderness, on the shores of the Gulf. His occupation is, bringing in garden-stuff, fish, and oysters to the town of St. Petersburg, especially to the large hotels. He too had suffered by the frost, and was, I fear, somewhat discouraged. The oyster-industry, however, was comparatively unharmed, and he and his boys take oysters to town two or three times a week. Right near his residence is a shell mound of pretty fair dimensions that was not made by the mound-builders of *ancient* time. The oysters are brought in by boat, and removed from the shells near the home I have mentioned. Now, that these shells may not be scattered all over his grounds, and occupy valuable land, the "shucking" is done on top of the heap. As the shells collect, the tools, etc., are pulled higher up; and finally they sit at their work on a heap of shells that bids fair, in a little time, to reach as high as the dwelling; and I was surprised to see how great an accumulation was made in just a few years as the result of the oyster-trade of just one person. Friend Norman has a very neatly arranged apiary under a great scuppernong grapevine, if I remember correctly. Most of the hives in Florida are shaded in this way during the great heat of summer.

About half way between friend Norman's and St. Petersburg I had my first glimpse of a good-sized wild alligator. I should have called it a log of wood on a pond of water; but the colored driver told me that this "gator" had been there for years. He has got a deep hole dug in the center of the pond; and when they try to capture him he buries himself down in the mud. He was lying partly out of the water, blinking his eyes in the sun as we passed by. It was near this spot, on our way home, that I met Thaddeus Smith—see page 219, Mar. 15. I need not tell you that friend Smith and myself had a "big visit;" and I, at least, am looking forward in anticipation of another visit some day up here in Ohio, where we both live. Friend S., like myself, was accompanied by a grown-up daughter. It seems a little funny that we bee-keepers must wait until we meet each other a thousand miles or more from home before we can become really acquainted.

Toward night I shook hands with Constance and the cousins, and they started back while I took passage on the steamer for Manatee. For quite a little while I felt homesick again, and consoled myself with studying the winds and the waves. Before reaching Manatee we passed through sea-water which looked almost like whitewash—I suppose owing to the exceedingly

white sand that was so fine the wind and the waves had mixed it mechanically with the water. At the pier I found my friend J. W. Bannehr, who lives about a mile and a half out in the country. The orange-trees here near the water, the most of them, held their leaves; and although the fruit was somewhat injured it was shipped almost every day to some extent. On account of so much sand I left my wheel at Sanford; but I greatly enjoyed my walk out in the country. For almost the first time I found green fields—yes, an acre or two of oats. You will remember grain is raised to a very small extent, and only in certain localities, in Florida. Finally I came on to a very pretty home with a neat fence around it, bee-hives stationed out among the orange-trees, and every thing so neat and tidy it reminded me of the English friends of my boyhood that I have spoken about in our book, "What to Do." Yes, friend Bannehr's people *are* English. They came from London. They first came to Florida some years ago, stayed two or three years, and got homesick, and finally returned to "Merrie England." But after they had stayed *there* a year or two they became more homesick than ever to go back to Florida. They came back here and located, evidently to stay the rest of their lives. Friend B. has good substantial fences all around his premises; then he has good substantial gates with corresponding fastenings. Why, it brought to mind vividly the gates and fastenings that Mrs. Root's father used to have down on the farm by the river. I was so much pleased with the gate-hinge that I am going to describe it right here. It is simply an iron rod driven in at each end of the stick forming one side of the gate. The bottom rod rests in a hole made in a stone set in the ground. The top pivot simply goes through an auger-hole in a piece of board nailed on the cap of the fence. Here you have a hinge that permits a gate to swing either way. It will never wear out; and if the gate ever sags, just pry out the stone a little that holds the bottom pivot. Right here I have in my notebook,—

"Five colonies increased to 28, and a big lot of honey."

I do not know whether friend B. did this or not; but I suspect he did. His hives are all set up on a little pedestal or stake. They are up about two feet from the ground; and in answer to my question he said it was to get them out of the way of the toads, and then he told me the following

TOAD-STORY.

When he first commenced keeping bees he noticed one colony so much depleted that he thought there must be some cause for it. Watching closely he discovered, just at night-fall, a big toad scratching on the entrance-board. You know the rest. Being of a humane disposition he picked Mr. Toad up and carried him away off down to the river, and carefully dropped him in. But there were more toads, and he kept carrying them away. Finally, after he had lugged off 30 different toads, by count, all at once the idea suggested itself that it was a little singular that there should be so many toads possessing such *marked family resemblance*. Thereupon he took No. 30, and marked him with white paint, for identification. He was consigned to the waters of the river as all his predecessors had been. What do you think? No. 31 was painted and decorated. I do not know what he did—at least I do not remember—with No. 31, but there were not any more toads around that particular beehive after that. You can figure out the moral yourself. Either put bee-hives up on posts, as friend B. has done, or else see that they (the toads) do not travel back during the night.

Almost every visit I made showed me not only model apiaries, but model appliances for poultry.

Friend B. has no boys, but quite a family of girls, and they and their mother look after their chickens. It is no strange thing in Florida to see hens with 15 chickens apiece of their own hatching; and where the *women-folks* have charge of them they generally raise the whole brood. But every thing in the poultry line has to be carefully shut up nights.

Away up north, when we heard people talk of Manatee we imagined it was a big city. I was somewhat surprised, therefore, to find it only a little village. Why, the great county of Manatee contains only about 3000 inhabitants, and so it is with many other counties of large area. You can readily understand, therefore, why they do not have graveled roads, expensive bridges, schools, churches, and other things. In our trips around the country we passed by a colored church, and I began making inquiries about the people and their religion. Poultry brings a high price in Florida—the colored people, a good many of them, paying as high as a dollar apiece for them. You know how naturally colored people take to chickens. Well, this colored church got in debt. In fact, a mortgage hung over it. To raise the mortgage they commenced having “chicken-festivals.” The church people would go to a chicken-festival, but they *wouldn't* put their hands into their pockets to lift the mortgage, and so they kept buying chickens of friend B. in order that the mortgage might be raised. Do you know how it turned out? They did not get the mortgage raised, but they did eat up the chickens, and had them, the chickens, to pay for besides the mortgage. Just now it occurs to me that I have heard of white people managing church debts something after that same fashion.



To this end was I born, and for this cause came I into the world, that I should bear witness unto the truth. Every one that is of the truth heareth my voice.—JOHN 18:37.

These words are quoted only by that beloved disciple, John, the faithful and intrepid follower—the one who kept nearest to Jesus during that terrible time that shook men's faith—the time of the mock trial and crucifixion of the Savior. Jesus spoke these words while alone with Pilate. The latter asked Jesus, you will remember, whether there was any truth in what these people were saying. “Art thou a king, then?” Then comes the wonderful answer: “To this end was I born.” The great purpose for which God gave his only begotten Son to humanity—the principal reason why he sent him down to earth to battle alone single-handed with the wickedness of humanity, was that he should bear witness unto the truth. Sometimes people say, when sorely provoked by the shortcomings of humanity, “There is not any truth anywhere.” And Pilate replied, perhaps in sarcasm, perhaps in sorrow, “What is truth?” My impression is, that Pilate had become so accustomed to *untruth*—he was so familiar with fraud, dishonesty, deceit, treachery, and *crime*, that it seemed almost a sarcastic joke, as we would say in common parlance, to talk about *truth*. I think Pilate was satisfied, however, that for once in his life he had met at least one human being—one individual

—who *was* honest and true. He goes back to the Jews and says to them, “I find in him no fault at all.” In the other gospels we are told also that Pilate seemed to recognize the whole thing as a farce, and a piece of Jewish spite and jealousy; for they had not succeeded in raising even a shadow of any reasonable excuse for fault-finding; yet they *hated* him all the more. Were there no good people in the world at that time? Oh, yes! but Judas and his band had planned to have this whole thing hatched up and carried out when the honest and true friends of the Savior were sleeping. The high-priests and their followers feared the multitudes, so they arranged their plan to have their mock trial when none of his friends were around—in fact, when no honest people were near. They hated the truth, and did not want it to come out. They were determined to crucify him *because* they knew he would speak the truth fearlessly and honestly. Their selfish, greedy schemes could not prosper while he was around; therefore the cry was, “Put him *down* and *crucify* him.” They did not want truth. They *feared* the truth. They loved darkness because their ways were evil, and *he* was the light of the world.

Oh dear me! if this were true only of the wicked and greedy high-priests of *olden* times, it would not be so bad; if only those who profess to be the chosen servants of God and of the Christian religion lived in *olden* time, and *olden* time *only*, we might console ourselves with the thought that the world is growing better, and we might take things easy, and not worry ourselves.

On page 276 of our issue for April 1, I mentioned, at the close of my talk, visiting the spiritualist camp-meeting at Lake Helen; and I mentioned that it seemed as if I were thrown there providentially. I did consider, at the time that Home Paper was written, mentioning some things that I heard rather than any thing that I *saw* that was not so pleasant; but I decided then to finish my chapter that day by speaking only of the *good* and not of the evil. A circumstance, however, has opened the way for me to say things that perhaps I *ought* to say.

I told you I employed a livery-team to take me five or six miles. The driver and I naturally discussed this camp-meeting. I can not at this late date remember exactly the words of this conversation, but it was something to the effect that he had attended one or two of the meetings. Once a week—Saturday night, if I remember correctly—they held a “seance,” if that is the right name for it, where the spirits not only wrote on slates, played on instruments, operated telegraphic machines, etc., but the faces of the dead appeared to the audience, and the departed ones conversed with their friends, shook hands, etc. The young man told me the admission fee was \$1.00.

“Why, my friend, are there people around here who can afford to pay a dollar to see things of this kind, especially after the terrible losses around here by the freeze, and the general widespread feeling of poverty, etc.?”

He assured me they did come in great numbers. In fact, he said it was a great place for *boys and girls* to visit. Somebody has told me since that they charged \$2.00 admission for each person. Never mind—it does not matter particularly. I asked him if the exhibition was made in the daytime.

“Oh, no! always in the night, and in a private tent.”

I turned, and looked him full in the face.

“Do you believe in the things that you saw? Were you convinced that these wonderful things were really miracles, and that they were the work of departed spirits?”

"Why, no; I do not believe there are any spirits about it, nor any thing miraculous, and I do not much believe the crowd did, although, of course, we could not explain things, nor understand how it could be done."

While I was at the meeting, a very bright and intelligent woman told me they were having wonderful miracles performed. If I remember correctly, she said she saw the face of her mother, who died years ago, as plainly as she saw my face, and talked with her. I could not well manage to stay quite an hour, and so, of course, there was no time for me to remonstrate or hold any argument. I did, however, object to the large admittance fee charged, but was told that "the laborer is worthy of his hire;" that they could not afford to travel about and give these exhibitions, which entailed considerable expense, without pay. How many times the little text has been quoted as an excuse for extortion and fraud! Again, I asked why those slates, instead of being screwed together, and put away until such a time as the spirits were willing, could not have been hung outside, on the side of the tent, in the broad daylight of noontime; and why not let as many gather around as could be collected from the surrounding country? and while thus exposed to full view, if the spirits were desirous of communicating with friends on earth, why not have this mysterious writing appear in the full light of day? If there were good reasons why their forms should be visible only at stated times, I could not see why the *writing* could not be done in sight as well as out of sight. I did not feel then that it was my province to criticize severely, or to find fault; but I threw out these remarks in a kindly, charitable spirit. They spoke of the miracles—wonderful miracles—that were being performed. Our Savior performed all of his miracles among crowds, and mostly in the open air, *free of charge*, and in broad daylight; and, in fact, he said to his accusers, "In secret have I done nothing." And there was not a single witness who could show where even for one brief minute he did *any thing* secretly. His life was *truth*, and there was no sort of reason for secrecy.

I had a few minutes to wait for the train. The conversation around the depot was, of course, in regard to the wonderful developments at the camp-grounds on the shores of beautiful Lake Helen. A boy in his teens said he had attended all their exhibitions. I do not know where he got his dollars, but he must have scraped them up in some way. He, too, said he could not understand how the things were done; but when I asked him if he believed it was the work of spirits he looked me over as if he thought I must be a stranger, or something more, and replied, "*Spir-its!* not much!"

When I sat in the tent I looked over the audience, the speakers, and the singers on the platform. The whole matter was of the deepest interest to me. Perhaps I never weighed individuals and studied faces as I did then. When I furnished the text for the speaker, "Thou has loved righteousness and hated iniquity," I was looking from one to the other, and wondering, "Does that fine-looking woman honestly believe she is helping the cause of righteousness? or can it be possible that she is one of the party who love iniquity? God forbid." I looked at the young girls who assisted in the music; surely *they* were honest and sincere; and then I looked at the men—gray-headed men—men of culture, experience, and possessed of a certain kind of power to move people by their eloquence. Are *they* parties to the iniquitous part of this work? I felt sure there was iniquity. It could not be otherwise. Not my own wisdom nor that of any other hu-

man being could draw the line through that congregation of people. But God himself knew. The great Judge of all the earth, who reads our hearts, knew just what part of that audience were scheming and planning and *loving iniquity*. Let us drop the curtain here, and let God decide.

Some little time after my return from Florida, friend Detwiler, known more or less to the readers of GLEANINGS, wrote me, inclosing a clipping from a Florida paper, exposing the party who drew the crowds at Lake Helen. He invited them to his home. They were furnished every convenience, and went through with the same program as at Lake Helen; thereupon friend D., with others present, conjointly and publicly advertised them as frauds and humbugs. A little later he sent me a full *expose* from another locality. As it seems wise to give these people some publicity to induce them to stop their work, we give the clipping in full:

OKLAHOMA CITY, O. T., Mar. 20, 1895.

EDITOR NEWS:—Yesterday a Mr. Goodrich, a former resident of Florida, handed me a copy of your paper bearing date of March 8, and called my attention to the "doings" of one Concanon, a pretended medium. That you might be informed of his escapade here I hurriedly write your paper.

Mr. Concanon came to our city. He followed two women, who preceded him two or three weeks and quietly learned the *lar* of the ground, and became acquainted with as many of our people as possible. The confederate learned who had lost children, how they died, and causes of death; also cases of deaths of grown people, especially those who left children behind them to mourn their loss. When Concanon appeared at quiet meetings were held among the element who desired most to see spirits. Gradually, as it became known of his presence, his audiences increased, and the personnel of the meetings changed. The manifestations were good, and, to the credulous, unexplainable.

Knowing the "manifestations" to be "snides" and our people duped, a few of us set about to expose the fraud, and did so the first meeting we attended.

Concanon would put his feet into a pan of flour, take rice in his hand, and then have his coat-sleeves sewed to his pant-legs at the knees, and coat-collar sewed up. Once in this condition, the curtains concealing him from the audience would close, and singing and other music commenced to allay or entice the spirits.

Myself with one other attendant took matches along, and arranged that one should seize the "ghost" and the other strike a match and examine the "errier." Fortunately the medium wanted to converse with me about some matters, and I was called to the curtain. The lady with him took me by the hands and the spirit (?) appeared. When the position was favorable I seized hold of the "ghost," and lo, and behold! it was Concanon—nude—mosquito-netting around him for "angel wings."

The exposure was complete. We had him, examined the pan of flour his clothing, the rice carefully laid away, and the clothes used to wipe the flour from his feet. Also some of the committee witnessed him as he donned his clothes all sewed up, he care slipping out and out of his clothes half a minute. The trick is easily exposed—is raw—and one of the greatest frauds ever perpetrated on a public. When Concanon was caught, the women fought like she-tigers. If they are still in your State, attend the meetings again; and when Concanon appears at the parting of the curtains, jump forward and seize the fellow.

A little paint would not hurt, for there is no more villainous occupation than trifling with the subject as he is.

D. C. LEWIS.

Along with the above, friend D. makes some comments of his own, and bids me make any extract I think proper. Want of space compels me to quote only half a dozen lines that make a most excellent summing-up of the whole matter.

The question arises, which horn of the dilemma the camp-meeting management will accept—that of being deceived for five weeks, or that of being a party to the deception—both very humiliating and annoying, no doubt.

J. Y. DETWILER.

New Smyrna, Fla., Apr. 11.

The great wonder to me is, that any intelligent audience should consent to sit still and see a man go through such absurdly ridiculous things as putting his feet into a pan of flour and filling his hands with rice, sewing up his pant-legs, etc. I know they did that at Lake Helen, because it was mentioned to me several times as proof that the medium could have had nothing to do with the manifestations. Are we to suppose that the spirits of the departed would indorse such proceedings in order that they might communicate with the present age? Why, it is a miserably wicked slur on our an-

cestors. What does *possess* people to shut their eyes and ears to sense and reason?

Well, friends, there seems to be a better day dawning. On every hand we see truth rising up out of the dust and ashes, and asserting itself. It is not only in our great cities that the confiding people have refused to be humbugged any longer by sneaks and traitors, but a general movement seems to be inaugurated to look *into* things and after *people*. Just now I find something in the *Practical Farmer*, right in line. Here it is:

Enos Harnden, seed-buyer for the Department of Agriculture, will soon make a report regarding sales of seeds by members of Congress. It will involve well-known men in a mess of petty crookedness. He has discovered that the seeds annually given members for free distribution among their constituents have been sold by many members. Harnden even bought some himself. For \$75 he bought of a member 14,950 packages of vegetable seeds 1365 packages of flower seeds, and 82 packages of field seeds. These seeds actually cost the government \$228, so that the member displayed a remarkable ignorance of their value. Mr. Harnden, while he was in the detective business for the Department, refused to buy more than 100,000 packages of seeds which had been paid for by the government, and given to members free, and were offered by them for sale. It is quite possible that, when this report is presented, it will put a stop to the free seed business altogether. The thing was started to enable farmers to secure new varieties of vegetables and grains, and thus enrich the agricultural products of the country. Last year \$160,000 was appropriated for the purchase of these seeds to be given to members of Congress, in quotas of 15,000 packages each, and in turn to be distributed by them among their constituents. But the custom has been so abused that it will probably be stopped altogether. No good has ever come of it that any one has seen.—*Chicago Times-Herald*, April 23.

It seems to me the thing to do is to come right out in print with the names of these members of Congress. If our American people, in their blind zeal for party, have put men into office who will steal packages of flower and vegetable seeds given them to distribute among the rural people, let them be shown up. Let them explain, of course, if there is any thing to explain. But has not this thing been going on about long enough? It kept coming to my mind, however, that our good friend Harnden might *also* have been swindled when he paid \$75 for over 16,000 packages of government seed, even if the government had actually pay \$228 for them.

We are greatly pleased to find in the *Rural New-Yorker* of May 4 an editorial which backs up with their characteristic energy all I have said about Electropoise. It is refreshing indeed to see a journal of such age, standing, and influence, lend a helping hand.

Now please bear with me, friends, while I make just one more application. The proprietors of Electropoise and Oxydonor are still running things with a high hand, with the aid of ministers of the gospel and our religious periodicals. They do not want truth. They have laid their plans on the assumption that investigation will not be made. It brings vividly to mind a part of a verse in the 28th chapter of Isaiah. "We have made lies our refuge, and under falsehood have we hid ourselves." They have humbugged a certain class of ministers and a few so-called professors, and they are becoming boastful, even while they laugh in their sleeves at the success of their treachery. Publishers of our religious newspapers do not want the truth, because the truth would stop their money-getting. This is hard and severe, friends, I know; but it is a terrible thing to be permitted to go on. One of our prominent religious newspapers—one that especially exhorts to *holiness* and *sanctification*, wrote me that it was not their business to in-

quire into the scientific claims of Electropoise. They do not want to inquire. The truth would cost them money. I asked permission to publish the letter they wrote to me defending their course. Permission has not yet been granted. They dare not grant it. They are obliged to shut their eyes to the scientific part of it, or else they could not consistently keep accepting the advertisement. Let the truth come out, just as it did under friend Detwiler's keen scrutiny at that spiritual seance. Let the truth come out, and be held up to the light of day as it is being brought out in the government seed business. Let the truth and the full facts in the case be held up to the public gaze as Parkhurst has been holding it up. And now let the truth come out and be held up with Electropoise and Oxydonor in the same way. If I am mistaken, and they have some truth somewhere on their side, it will do them good and not harm. "Ye shall know the truth, and the truth shall make you free."

LATEST FROM ELECTROPOISE.

It seems these people exhibit a tendency to abandon their fraudulent science, and come a little nearer telling the truth. We judge so from the following, which we take from one of their advertisements in the *Christian Herald* of May 8.

"It puts the body into such a condition as to be able to absorb oxygen more freely through the lungs and also through the pores as well. It is thermal electricity. These are our theories about it."

I would call attention to the closing—"These are our theories." This would seem to indicate that they do not exactly know *why* it cures folks. If a chemist or electrician should prove to them that there is no electricity about it whatever, I suppose they would be obliged to say they did not know *what* it was that performed the cures. I should like to ask them a few more questions. For instance: If you do not know what it is, why have you any reason to think it has any thing to do with oxygen? Secondly, what reason have you for putting sulphur and plumbago into that little metal case? What good does it do? To be honest, they would have to say again, "We don't know." Third, why do you demand \$25.00 for what costs you but little more than 25 cents? I do not think they will say they "don't know" this time, for they *do* know only too well. And now I submit the facts in the case to the people who claim to be cured. Do you believe that putting sulphur and plumbago into that little metal case, and dropping the case into a bowl of water, cured your ailments when even the men who make it must admit they have no *reason* for so doing? We once heard of a colored doctor who gave a patient, in case of an accident, some lead shot and some rosin. When the regular physician came, and demanded of the darkey why he had administered such a dose as that, the explanation was that he was pretty sure something "was broke inside." The lead was to solder up the break, and the rosin was to make the solder *stick*. Now, this poor unlettered friend had some reason and sense to back his proceedings. Can the Electropoise people give as much of a reason? And yet they talk about the human body being "polarized," "taking oxygen from the air," etc. There are some testimonials that it seems do not get into print in the Electropoise advertisements. Here is one of them:

Mr. Root:—I have had the pleasure of receiving and reading a copy (April) of GLEANINGS. It is in regard to your article, "Our Religious Literature

and Electropoise," that I now address you. This subject is important to me, for two members of my family have been intense sufferers from chronic rheumatism; and when one sees his friends suffering he will make great sacrifices for them.

My uncle has rheumatism—can not walk a step. All winter he used the Electropoise, and received no benefit from it. It is true, we rented it; but if we had been more flush in money matters we would have bought it. Our physician brought it to us saying he had no faith in it, because it professed to cure too much. But another physician, Dr. Buck, of Leetown, W. Va., had been using it with varying success. One of the worst features about the whole thing is, they recommend it for the most dangerous and rapid diseases, and ask you to not take any sort of medicine while using it. I take the New York *Churchman*, M. H. Mallory & Co., 47 Lafayette Place, New York, and it has whole pages of advertisements, praising and recommending the Electropoise. I also take *Munsey's Magazine*, and the May number has two whole pages devoted to Electropoise. The address is Frank A. Munsey, 151 Fifth Ave., New York.

If you please, I should like three copies of GLEANINGS and a few slips to send to those two publications. MRS. W. H. SEIBERT.

Kerneysville, W. Va., May 20.

If it is indeed true that our regular physicians are recommending, or even suggesting, to their patients that *charms* and *baubles* may cure disease, things are getting to a rather bad pass, especially when they recommend such a trap for chronic rheumatism. I would inform our good friend that both the *Churchman* and *Munsey* have been warned again and again of the fraud they are helping to push, and yet they keep on. By the way, our readers may not know that the instrument (?) is rented out at \$15 for three months. Just think of it—\$5 *per month* for a senseless trap that does not cost half a dollar in the first place! What are we coming to? I stated this plainly to the editor of a prominent religious paper; and his defense was, that people nowadays are getting great profits for almost every thing. Great profits indeed! How about the farmers, market-gardeners, fruit-growers, and other people? Besides, what would be the effect on the rising generation to let them see instances, right before their eyes, where people who stand high are getting \$25 for what costs them but little more than 25 cts.? Yes, I know I have been going over this thing a good deal; but it will surely be the ruin of our nation if this and other work of a similar kind is not put down and stopped.



THE RECENT FROST.

In our last issue we spoke of covering our tomatoes with pie-plant leaves. Well, we have been doing this for almost two weeks. The tomatoes were all saved, but they look pretty sick on account of being covered up so much; and, even though they did not get frosted, they are a good deal stunted from the continued cold weather. We saved all the plants under glass, except that the frost was so severe tomato-plants were frozen where they came up against the glass. On Monday night, May 20, the frost was so severe that cabbages and cabbage-plants were more or less injured. It made me think of the gardens in Florida after the frost of Feb. 7; and when I saw the mulberry-tree in front of our back door, with the leaves and half-grown berries all cooked, it made me think still more of Florida. We all have to take our turn

with disasters and disappointments, sooner or later; but if we are working right along in harmony with the plans of the great God above, we may feel sure that adversity as well as prosperity comes from a kind and loving Father.

It is interesting to note what varieties of vegetables and fruits stand the frost best. While all of our common raspberries have been more or less injured, even before the fruit-buds were open, the buds of the Gault raspberry, even those down on the creek-bottom ground, seem to be uninjured. They are a little later than some of the others, which may account for a part of it; but the plant is certainly exceedingly hardy. We shall have no more plants for sale until next season.

Among the strawberries I was much surprised to see our old friend the Haverland loaded with green berries as usual, while nearly all the rest, both green berries and open blossoms, are dead and black. The Warfield comes next to the Haverland in this ability to withstand frost—at least, so it has seemed during this last frost. Our wax beans are all ruined except some that were not yet up. And here is a good reason for putting your early plantings in to a pretty good depth, and for putting in, also, a great plenty of seed. If the frost injures the first to get up, you still have the last. In Florida I noticed that those who had beans *almost* up were the gainers. You see they would be several days ahead of those who had to plant after the frost was over. Our early corn had also to be replanted—at least, we thought best to replant it.

As usual, a good many people borrowed trouble more than they needed to do. For instance, our apples are almost uninjured; a great part of the cherries still hang on the trees, and are growing larger every day, even though they do look brown and blistered: the same with plums to a certain extent; and this morning I found a *peach-tree* that had, by some hook or crook, got through, and the peaches looked as fresh as if there had been no frost at all. The tree was close to a building. Our grapes are all destroyed except some vines tacked on to the brick walls of our house. The wall is a protection; and, besides, it holds the heat during the night.

We are gathering beautiful strawberries, that were in our plant-beds, protected by glass. With a very little protection you can have them two weeks earlier, and absolutely safe from frost. In fact, the cloth covering for beds will protect strawberries perfectly. I feel pretty sure it will pay to grow strawberries protected by glass, say in February and March; by cloth in April, and in May if it should be needed. They will bring a much bigger price than the berries shipped from the South; and after you get your beds, sashes, and cloth covers, it is not so very much expense to keep them perfectly safe; and if you sell plants you can in this way have runners and new plants for sale during June and July, when nobody else is prepared to fill orders; and early plants put out in the above months will do wonders in the way of getting a stand for the next season. Of course, water should be handy where one plans to put-out plants during these hot summer months.

MICHEL'S EARLY STRAWBERRY.

This has again given us our first picking to-day, May 28, and they have stood the frost almost if not quite as well as the Haverland. The berries are of a good size for an extra early, splendid color and shape, and exquisite in taste, only perhaps a little tart. If they bore as many berries as the Haverland they would be an acquisition indeed. The Haverland, with its great handfuls of berries on a single stem, will

be perhaps a week later. We have a few plants of the Rio. This is, perhaps, almost or quite as early as the Michel's Early, and it seems to be larger, and rather better in shape. We have not plants enough to decide whether it is as prolific as the Michel's early or not. Every strawberry-patch should have at least a few of these extra earlies. Both are perfect blossoms.

ONION-PLANTS.

We are just now getting ready to fill an order for 200,000. The purchaser is satisfied to plant them out almost as late as June 1, because he did the same thing last year, and had excellent success. He lost his first planting by frost; but rather than lose the use of his ground, which was nicely prepared and heavily manured, he is going to purchase this large number of plants. In consideration of the quantity ordered, and the lateness of the season, we let him have them for 50 cts. per 1000. There is a moral right here. After you have been to great pains to get your ground fitted and heavily manured or fertilized, do not let it go to waste. Try to make it grow something of market value.

SCARLET CLOVER ABOUT JUNE 1.

□What do you think? Our first sowing of scarlet clover was in among raspberries. It was put in some time during the latter part of September. It did not come up very well, however, and this spring there were so many weeds and so little clover that we cultivated it all up. Yes, it was pretty well cultivated twice, and then the whole raspberry-patch was thoroughly hoed out. Yesterday, however, while I was going through the premises with our friend Hugh Vankirk, of Washington, Pa., one of the visitors suddenly stopped and remarked: "Why, what new sort of clover is that in there among those raspberries?"

I was a little way off, and told him I did not know of any new clover; but come to get a little nearer there were great stalks here and there among the canes, from one to two feet high, bursting out in great blooms of these wonderful crimson strawberry-like heads. Why, notwithstanding all our cultivating and hoeing, there was in some places almost a fair stand of crimson clover. Now, you see I am going to try this thing again; and I do not know but there would have been quite a stand on the creek bottom, if I had not been in so much haste to decide it was all killed, and plow it under. This raspberry-patch was the only place where the clover could have made a show, for all the rest was plowed under fully ten inches deep.

WINTER OR EGYPTIAN ONIONS; SOME QUESTIONS.

How early in the spring can you gather them for market? How long do they remain tender and in good condition for the table? Suppose you plant the sets August 1st, in what condition are they the first of the following April? To what extent (in numbers) do they multiply? How many of those "long succulent stalks" you mention does it require to make 1 lb.? What do you mean by saying in your seed catalog, that you "plant them three to five inches apart, in a drill, about as you would peas"? Is not that a long distance apart for planting peas? How large is the average set that you plant in the fall? TIMOTHY HALLETT.

Galena, Ill., Apr. 25.

We gather the onions for market as soon as the frost is out in the spring; but they are pretty small at first, and it takes a good many of them to make a bunch weighing four ounces; but they commence rapid growth almost the

first thing that starts. In order to have them early, the rows should be well mulched with coarse stable manure. This will keep the tops from freezing, and it also serves to bleach the long stalk, and keep it white and tender. We use them right along every day until, say, strawberry time. When strawberries are ripe the Egyptian onions begin to send up seed-stalks, and become rather tough and strong. So we commence on the American Pearl onions, which are now getting to be of the size of hens' eggs or larger. The best onions (Egyptian) for spring use are from the sets put out in July, August, or September. They do not multiply until they have produced sets. After that, when the sets are gathered, and the big seed-stalk is cut off, the original onion splits up into a dozen or twenty little onions. In order to get the best quality and best size, the ground needs to be exceedingly rich. The number of stalks required to make a pound depends upon the season. If you plant large-sized sets as soon as they can be gathered, say in July, in very rich ground, along in May they may be so large that four or five would make a bunch weighing a pound. In saying that we simply sprinkle the sets in a drill, and cover them up as we do peas, I meant to show you how little trouble it is to plant them, and not that we put the peas as far apart as we do the onions. The sets from these onions vary from the size of a grain of corn to pretty nearly the size of a small hen's-egg. The large sets make the biggest onions in the spring; but it would be rather expensive for seed, to plant only large ones. The best onions for market are those from sets the season before; but if you do not use them all for bunching, and let them stand to produce seed, they will grow a crop of seed right straight along, year after year; and you need not touch a hoe or cultivator to them unless you choose. You can keep all weeds down by heavy mulching with coarse stable manure, on the plan Terry manages his currants, gooseberries, blackberries, and raspberries. The old stalks, one or more years old, may be used for bunching, but they are not nearly as tender, neither do they have as much of an onion at the bottom as those from sets planted only the summer before. They continue to split up each season, however, as soon as the seed-stalks are mature and pulled away, so that a single row ultimately becomes a great mass of onions. Sometimes two feet across, the stalks being as close together as they can stand. In such a row you can get an enormous crop of sets, but it needs constant and heavy manuring to maintain the size of these sets each year. In fact, so easily are the sets raised that there is money in them at a dollar a bushel. Permit me to say again, that, to keep up the reputation of these onions, you should use only those for market which were planted the season before, and grow them on *strong rich soil*.

GRAPE JUICE AS A MEDICINE.

On page 475 of last year's volume, after speaking about the remedial qualities of pineapples, I said, "I am told that grape juice, when properly canned up, just as expressed from the ripe fruit, makes a most healthful and nourishing beverage." The above was called to mind by a *present*—I think it came in a box of wax—two quart bottles of Niagara-grape juice. It came from C. J. Baldrige, of Kendaia, N. Y., and I want to tell you that the juice is exactly the same as that from the Niagara grapes themselves. Its appearance in the bottle is a beautiful transparent amber or straw color; and it is about the most delicious thing in the way of a beverage I ever got hold

of. I afterward learned from one of the book-keepers in our office that they had some grape juice from Concord last year, when the fruit was so cheap, and she kindly brought me some samples. With such a test as I was able to make, I am quite certain these pure fruit juices will many times cure sick-headache caused by indigestion, in the same way that pineapple does. The juice is put up without any sugar, and the cans or bottles are sealed up while hot, just as we put up canned fruit. With the frosts we have just been having, I do not suppose grapes will be offered this year at the very low prices they were last; but when any kind of fruit becomes a drug in the market, I think this is one of the ways in which it may be utilized by canning up the fresh juices. Friend B. sells it at \$4.00 per dozen quart bottles, and the bottles are worth 50 cts. a dozen when empty. You may say this is rather expensive as a beverage; but it is not at all expensive if used as medicine; and if our various churches have not already inaugurated the custom of using unfermented grape juice, they had, in my opinion, better do so, using the pure juice of the grape as I have described. Friend B. does quite a business, I am informed, in furnishing this product for communion purposes.

A NEW PLAN OF RELIEF BY WORK.

The above is the title of a little pamphlet by the Sterling Pub. Co., 106 Fulton St., New York. It gives in detail the result of the experiment made last season in Detroit in letting the poor have the use, free of charge, of the unoccupied land in the city. The ground was plowed, harrowed, and marked, ready for planting, then divided up into little garden-patches, and the poor of the city who had no gardens of their own were given the privilege, and shown how, to raise potatoes and other similar crops. The result, which has been widely published, was astonishing. About 430 acres were thus fitted and divided off into quarter-acre lots. About 3000 applications were made for land; but they were able to provide for only about 945 families. Let me quote:

The result is, that about a thousand families were enabled to pass through the winter without having recourse to the poor-commission, and a large sum was thus saved to the tax-payers.

The estimated value of the crops produced was from \$12,000 to \$14,000; although many families, from dire want, were compelled to dig up for consumption certain portions of the potatoes before they had attained any size.

Poor people almost fought for a chance to get a piece of ground to till; and those who were successful used their best efforts to obtain a full crop. Applications for land for 1895 were made by a great many of them. The loss by theft was practically nothing—certainly not more than that of the average market-gardener.

Well, friends, I confess this is good news—to me at least. That little book of mine, "What to Do," you may recollect, is right along in this line; and as the area of ground is small for each family, the ultimate result—that is, where people have grace and persistence to follow it up—will be "high-pressure gardening." Other cities are rapidly taking up the project; and just think of the general effect on the appearance of things. Why, I have again and again, in passing different cities in our land, felt pained to see these vacant lots—may be almost right in the heart of the city, some of them—growing great useless weeds; and where land is so high-priced and valuable, the contrast is really painful between such a lot and one nicely improved, no matter whether it is occupied by a store, dwelling, or some sort of factory, or a greenhouse. May God be praised for this new un-

dertaking. The city furnishes the *land*, you see, and the deserving poor people furnish the *labor*, and have the crop.

TOBACCO IN COLLEGES.

The effects of tobacco are beginning to be recognized by our schools and colleges. See the following:

Quite a sensation has been stirred in college circles at Delaware by the announcement of Dr. James W. Bashford, president of the Ohio Wesleyan University, that the question of the use of tobacco by the students had been carefully considered by the officers of the college, and concerning it he said: "Our faculty, after making a careful study of the matter, have decided to ask all our students to discontinue the use of tobacco, beginning next fall; and if any tobacco users come we shall have to dissolve partnership." This is a very radical step, as it is said that nearly 30 per cent of the students use tobacco. This new rule may affect the attendance next year.—*Ashland Times*.

It is five years to-day since I read your article in GLEANINGS on the tobacco habit, and resolved to try to give up the weed. I am glad to say five years is gone, and *no tobacco* used by me since.

H. C. HEDGES.

Lumberport, W. Va., Mar. 6.

I agree to quit the use of tobacco, and hope to get my pay in the shape of a smoker; and I will pay for it if I allow myself to be dominated by this vice again.

P. E. AVILO.

Peñoles, Mexico.

Kind Words From Our Customers.

Your paper is a grand help on spiritual life to me, and is worth far more, as bee culture here is an uncertain calling.

S. S. FETHEROLF, Palestine, O.

Thanks for the exposition of Oxydonor, as we have an agent here getting in his work on the despairing sick and aged invalids.

Lampasas, Tex.

R. A. HARDY.

MINIX JOURNALISM.

I wish to thank you for your articles on high-pressure gardening in GLEANINGS. They have proved a great help to me. To the teachings of yourself and Mr. Terry Lowe much of my success in combining apiculture and potato-farming.

River Sioux, Ia., Mar. 11.

F. M. CRANE.

My wife says if GLEANINGS cost twice as much, and contained only A. I. Root's talks, she would take it. She, as well as myself, is somewhat partial to Rambler, as we have relatives and friends in and around Colton and San Bernardino. Somehow we both have "leanings" toward the Medina people, and can not get along and keep house and bees without GLEANINGS. The more men of A. I. Root's stamp there are in the world, the better. I wish every one could read his Talks. I can extract more solid comfort from one of his Talks than from any spread-eagle sermon I ever heard.

St. Joseph, Mich., Feb. 11.

E. A. MALLORY.

The raspberry-plant came to hand promptly, and such a nice plant—twice as large as I expected! It is a pleasure to send to you for any thing. I am sure to get as much as or more than I expect. Thanks for past favors.

Rail, Mo., May 7.

N. A. E. ELLIS.

[Now, friend E., don't be too sanguine. We happened to hit you just right on the raspberry-plant, and, in fact, that is the way we like to do business. But a great many times it is impossible to find the plants and other things to give our customers these happy surprises. Rich ground and plenty of care, however, go a great way toward doing it. Many thanks.—A. I. R.]